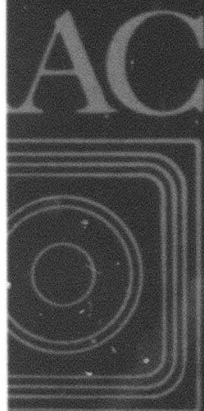


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Microcircuit Device Reliability
**DIGITAL FAILURE RATE
DATA**



Summer 1981

Reliability Analysis Center
ROME AIR DEVELOPMENT CENTER

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Microcircuit Device Reliability

DIGITAL FAILURE RATE DATA

Summer 1981

Prepared by:

Reliability Analysis Center Staff
IIT Research Institute

Under Contract to:

Rome Air Development Center
Griffiss AFB, NY 13441

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failure information derived from failure analysis of digital devices. In each of these sections, the data summaries are followed by a detailed listing of line entries which allow the reader to make the maximum use of the information compiled in this compendium.

In addition to providing field and test results, MDR-17 presents comparisons between actual field experienced failure rates and MIL-HDBK-217C, Notice 1, predicted failure rates. The use of tables and graphs results in high visibility into the parameters which affect device failure rates, allowing correlation between observed and predicted failure rates to be made effectively.

PREFACE

This is one of a series of annual data publications dealing with microcircuit reliability which includes hybrid, linear and interface, memory and LSI devices, as well as digital SSI/MSI components. Other volumes specifically treat discrete semiconductor (including optoelectronic and microwave) and nonelectronic components.

Each document contains analyzed reliability information in addition to the detailed presentation of field, test and failure analysis results. Digital SSI/MSI microcircuit reliability is now divided into two separate publications: Digital Failure Rate Data, which presents and analyzes the results of life testing, equipment level reliability demonstration testing and field experience; and Digital Evaluation and Failure Analysis Data, which deals with the results of burn-in and environmental screening tests, as well as relates the detailed failure analysis results and distributions from thousands of failure events. This information aids in determining device fallout rates and the operational test and field reliability characteristics of devices. Life test results and their relationship to field experience as well as observed vs. MIL-HDBK-217C predicted failure rates can be reviewed. The relative risks of screening decisions may also be examined. Additionally, information is available to form the foundation for failure mode effects and criticality analyses (FMECA). Through the data presented, these publications are intended to actively complement such documents as MIL-STD-883B and MIL-HDBK-217C. The user is cautioned that the data contained herein may not be used in lieu of other contractually cited references.

The Rome Air Development Center's computer facilities and the extensive cooperation of the Reliability and Compatability Division (RADC/RB) and the Information Sciences Division (RADC/IS) and its personnel were a vital factor in the generation of this compendium.

The detailed data sections are generated directly from the Reliability Analysis Center's computerized data base utilizing a customized file system approach developed by the RAC programming staff. This system allows the generation of special reports and analyses wherein the data is categorized to match the needs of the user.

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INTRODUCTION

This microcircuit device reliability compendium features failure rate data for SSI and MSI digital microcircuits. The data used in this publication were collected, reduced and refined from a broad spectrum of government and industry sources by the Reliability Analysis Center in order to present objective and relevant information for widespread usage. This publication is divided into sections to allow for convenient referencing of a particular data summary or distribution. A brief synopsis of each section appears below to provide an overview of the contents and scope of this data publication.

Section 1 contains the definitions of terms used in the statistical analysis of failure rate data. Included in this are some common abbreviations and symbols associated with reliability estimations, as well as the underlying basis for statistical computations.

Section 2, "Digital Summarized Data," consists of a useful compilation of failure rates as they have been derived from equipment level operation and component life test results collected by the RAC. Failure rates are presented for several generic classes of devices, and subsequent comparisons are made based upon environment, operational type and other more detailed criteria. In addition, a presentation of MIL-HDBK-217C, Notice 1 predicted and observed field experience failure rates is provided.

Section 3 entitled "Digital Device Data - Detailed Listings" is comprised of a series of line-entries containing part-level reliability data. These listings present the detailed parameters pertinent to device reliability (such as complexity, package type, etc.) and associated failure information for those components. Included here are life test, field, reliability demonstration and equipment checkout data sorted by operational type, device manufacturer and part number.

INTRODUCTION (Cont'd)

The final two sections (4 and 5) concern themselves with the failure event record structure and the summarization of failure analysis results. The failure event records contain detailed information on specific devices whose failures have been verified and on which failure analysis has been performed. As such, each failure event record reveals the particular device and test characteristics, as well as associated stress values and other failure information (failure mode, failure defect cause, etc.). These detailed records are then summarized to obtain failure distributions which reveal the nature of failure trends by operation type. The distribution summaries form the basis of Section 4, while the detailed records from which they were derived are included in Section 5.

This publication contains considerably more commercial field data than any other type of field data. While this type of data is certainly useful, there are some points which should be given consideration:

- (1) In most instances, this data represents replacement rates, not failure rates. This publication assumes the two quantities to be equal as a worst case.
- (2) Much of this data is warranty data, which means that only the early life of the part is represented. Thus, the data may be vulnerable to bias due to infant mortality failure.
- (3) Actual stress levels are not usually known. Stresses are typically calculated by using a manufacturer's adopted component derating guidelines. While this will be a good estimate on the average, any individual component may vary greatly from the assumed stress.

In spite of these limitations, it is assumed that the quantities of data involved are of sufficient magnitude such that the effects of these

INTRODUCTION (Cont'd)

limitations are minimized, rendering the data useful and dependable for reliability purposes.

The data contained herein may be applied to part selection and device failure rate estimation. Through the reader's analysis of the data, operational types exhibiting higher failure rates for a given set of parametric and environmental conditions can be avoided, thereby decreasing field repair costs. System and device failure rates can then be reassessed and adjusted to ensure more accurate and realistic MTBF predictions.

**MICROCIRCUIT DEVICE RELIABILITY
DIGITAL FAILURE RATE DATA**

SECTION 1

**DEFINITION OF TERMS, STATISTICAL METHODS AND
ABBREVIATIONS USED IN THE DATA ANALYSIS**

DEFINITIONS OF TERMS AND STATISTICAL METHODS
USED IN THE DATA ANALYSIS

1. Part Hours: The number of parts tested multiplied by the operating duration in equipment or on test.
2. Point Estimate or Maximum Likelihood Estimator (λ):

$$\lambda = r/n$$

where

r = number of reported failures
 n = number of reported part hours.

This number is generally normalized to failure/ 10^6 hours.

3. Confidence Interval or Limits: The confidence intervals given in this book are two-sided 60% intervals computed from the Chi-square distribution using $2r$ and $2(r+1)$ degrees of freedom, respectively. The lower limit of the interval is the 20% level, and the upper limit is the 80% level. The Chi-square 60% confidence interval is the statistical range of values which would, with a 60% probability, include the actual mean of an infinite sample.

In those instances where no failures occur, it is not possible to derive a lower limit for the confidence interval. It is possible to define an upper 80% confidence level such that there is a probability of 80% that the mean of an infinite sample will be less than this value.

4. No. Records: Gives the number of data entries which have been merged to arrive at the point estimate or maximum likelihood estimator (λ).

5. Primary Failures: A failure not caused either directly or indirectly by the failure of an associated item(s).
6. Secondary Failure: A failure which is the direct result of a primary failure - one which is caused by a failure of an associated item(s).
7. Abbreviations: Abbreviations for Operational Type (OP Type) are:

CMOS	Complementary, Metal Oxide Semiconductor
DTL	Diode - Transistor Logic
ECL	Emitter - Coupled Logic
HINIL	High Threshold Logic (High Noise Immunity Logic)
HTTL	High Speed, Transistor - Transistor Logic
IIL	Integrated - Injection Logic
L TTL	Low Power, Transistor - Transistor Logic
LSTTL	Low Power Schottky, Transistor - Transistor Logic
PMOS	P-Channel, Metal Oxide Semiconductor
RTL	Resistor - Transistor Logic
STTL	Schottky, Transistor - Transistor Logic
SUHL	Sylvania Universal High - Level Logic
TTL	Transistor - Transistor Logic

8. Data is collected by the RAC from many sources. It is common to find several data entries for a particular device which has been used in the same general environment in different systems. In the data analysis described in this book, these records are often merged to arrive at one overall failure rate. A significance test for the hypothesis that the merged records are in fact from the same distribution is applied at the 5% significance level. The test is attributable to Brownlee (see Brownlee, K.A., Statistical Theory and Methodology in Science and Engineering, pp. 142-144). When this test indicates the data entries should not be merged, there is a possibility that the system application significantly affects the failure rate for the particular device type.

**MICROCIRCUIT DEVICE RELIABILITY
DIGITAL FAILURE RATE DATA**

SECTION 2

**DIGITAL SUMMARIZED DATA
(Tables 1 through 5)**

DIGITAL SUMMARIZED DATA

Introduction

The summarized data are presented to allow a more meaningful insight into the effects of such factors as package type, logic type, device gate complexity, device junction temperature, environmental stress and screen class levels upon the failure rates of SSI and MSI digital microcircuit devices.

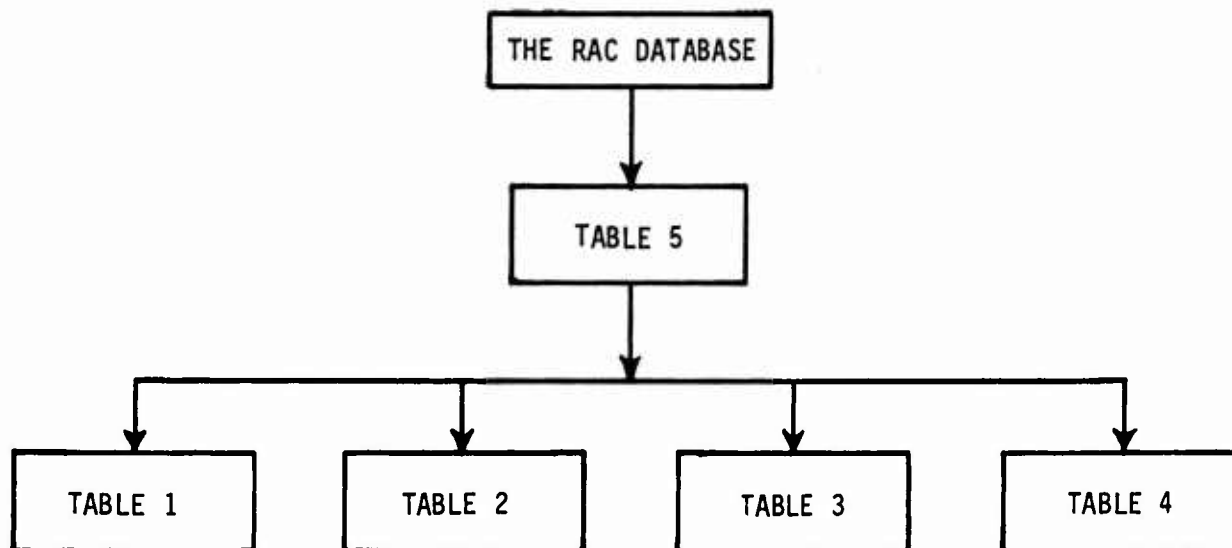
This summary section is segmented into four different subsections, the first of which is entitled "Summarized Generic Failure Rates - Field Data" and provides several cross-sections of summarized field data covering the calendar time period 1974 to the present. The second subsection, "Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1 Predicted Failure Rates," analyzes the most significant relationships between the summarized field data and theoretically predicted failure rate values. The remaining two subsections represent a summarized presentation of microcircuit device failure rates as they occur during equipment-level testing and life testing and are entitled "Summarized Generic Failure Rates - Reliability Demonstration and Equipment Checkout Data" and "Summarized Generic Failure Rates - Life Test Data," respectively.

The primary purpose of Section 2 is to serve as an efficient aid to those who require generic failure rate information on digital SSI/MSI microcircuits from a varied selection of available formats. Individuals requiring a more customized approach concerning the failure rate information of these devices are invited to contact the Reliability Analysis Center directly.

SUMMARIZED GENERIC FAILURE RATES - FIELD DATA

The summarized generic field failure rates represented in Tables 1 through 5 are a compilation of detailed equipment level field experience information. The data are presented using two levels of summary and are grouped according to those parameters or operational characteristics deemed most applicable to the user's need.

The data presented herein are provided as a complement to, but not a replacement for, the failure rate information in MIL-HDBK-217C. The structured format of these field experience presentations will enable greater insight into the inherent reliability of each defined generic class and reflect the reliability influence of logic types, environmental stresses, gate complexities, quality levels, package types and junction temperatures. The user is again cautioned that the data presented in this publication may not be used in lieu of other contractually cited references and specifications. A graphic illustration of the levels of summarization of the detailed data used to derive the tables included in this section is presented below, beginning with the most detailed (least generic) of the summarized tables:



Within this hierarchy, Tables 1 through 4 represent the most generic device classifications. Each of these tables lists digital SSI/MSI failure rates for the unique categories of environment (Table 1), operational type (Table 2), screen class (Table 3), and package type (Table 4) without regard to any of the secondary influences which might affect the categorical failure rate. For instance, Table 1 ("Field Failure Rates by Environment") does not explicitly reveal the distributions and hence the effects of screen class level and/or device gate complexities between unrelated field environments. Therefore, care must be exercised in the interpretation of these failure rates. Once these limitations are understood, these four tables provide the reader with an overview of digital microcircuit reliability under actual field conditions.

Table 5 is compiled directly from the RAC data base and represents the most highly detailed of the field data summaries. Each line entry is categorized according to operational type, application environment, screen class, package type, gate complexity (specified as a range) and junction temperature (designated T_j and also specified as a range). Failure rates are calculated for each of these entries based on the total quantity of failures and part hours obtained by grouping the detailed failure data into the above device classes. The qualifications utilized for calculation of the point estimate failure rate and the 60% confidence interval failure rates (see the "Definitions of Terms, Statistical Methods and Abbreviations Used in the Data Analysis" on page 7) are based upon the following minimum data requirements:

1. 0 failures with $\geq 500,000$ accumulated part hours
 1 failure with $\geq 250,000$ accumulated part hours
 2 failures with $\geq 125,000$ accumulated part hours
2. The device must have had an applied power/voltage stress.

TABLE 1: FIELD FAILURE RATES BY ENVIRONMENT

APPLICATION ENVIRONMENT	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
			20% C.L.	POINT ESTIMATE	80% C.L.
AIF	7.594	9	0.85	1.19	1.65
AIT	72.237	6	0.05	0.08	0.13
AUF	264.318	78	0.27	0.30	0.33
GB	332.393	49	0.13	0.15	0.17
GBC	25513.052	5014	0.19	0.20	0.20
GF	400.171	52	0.11	0.13	0.15
GM	13.456	0	—	—	0.12
GT	1.923	0	—	—	0.84

TABLE 2: FIELD FAILURE RATES BY OPERATIONAL TYPE

OPERATIONAL TYPE	DATA SOURCE	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
				20% C.L.	POINT ESTIMATE	80% C.L.
CMOS	Combined Military Commercial	2960.104	595	0.19	0.20	0.21
		172.538	53	0.27	0.31	0.35
		2787.566	542	0.19	0.19	0.20
DTL	Combined Military Commercial	448.158	108	0.22	0.24	0.26
		17.244	2	0.05	0.12	0.25
		430.914	106	0.23	0.25	0.27
ECL	Combined Military Commercial	1677.389	252	0.14	0.15	0.16
		2.205	2	0.37	0.91	1.94
		1675.184	250	0.14	0.15	0.16
HTTL	Combined Military Commercial	587.944	140	0.22	0.24	0.26
		225.569	50	0.20	0.22	0.25
		362.375	90	0.23	0.25	0.27
LTTL	Combined Military Commercial	2851.233	991	0.34	0.35	0.36
		70.306	5	0.04	0.07	0.11
		2780.927	986	0.34	0.35	0.36
LSTTL	Combined Military Commercial	7634.512	1022	0.13	0.13	0.14
		0.760	0	-	-	2.12
		7693.752	1022	0.13	0.13	0.14
STTL	Combined Military Commercial	2171.343	366	0.16	0.17	0.18
		182.785	3	0.01	0.02	0.03
		1988.558	363	0.17	0.18	0.19
TTTL	Combined Military Commercial	8214.461	1734	0.21	0.21	0.22
		420.685	79	0.17	0.19	0.21
		7793.776	1655	0.21	0.21	0.22

TABLE 3: FIELD FAILURE RATES BY SCREEN CLASS

SCREEN CLASS	PART HOURS (10^6)	QUANTITY OF FAILURES		FAILURE RATES (F / 10^6 HOURS)		
				20% C.L.	POINT ESTIMATE	80% C.L.
JB	16.226	2		0.05	0.12	0.26
B-1/JB	221.789	9		0.03	0.04	0.06
B-1	54.315	6		0.07	0.11	0.17
B-2	1.905	0		—	—	0.84
C-1	190.169	65		0.31	0.34	0.38
B-2/N	9.114	8		0.61	0.88	1.25
X	36.737	5		0.08	0.14	0.22
D	1838.321	327		0.17	0.18	0.19
D-1	24236.568	4786		0.19	0.20	0.20

TABLE 4: FIELD FAILURE RATES BY PACKAGE TYPE

PACKAGE TYPE	PART HOURS (10^6)	QUANTITY OF FAILURES		FAILURE RATES (F / 10^6 HOURS)		
				20% C.L.	POINT ESTIMATE	80% C.L.
HDIP	2080.832	347		0.16	0.17	0.17
HFPK	249.009	69		0.25	0.28	0.31
PDIP	24273.305	4791		0.19	0.20	0.20
CAN	1.998	1		0.11	0.50	1.50

TABLE 5: GENERIC FAILURE RATES - FIELD DATA

OPERATIONAL TYPE	APPLICATION ENVIRONMENT	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)/ QTY. FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20 C.L.	POINT ESTIMATE	80% C.L.
CMOS	AIF	B-1/JB	HDIP	1-10	51-75	0.785/1	0.28	1.27	2.96
		B-1/JB	HDIP	11-25	51-75	0.176/0	--	--	9.14
		B-1/JB	HDIP	51-75	51-75	0.587/0	0.38	1.70	5.10
		B-1/JB	HDIP	76-100	51-75	0.063/0	--	--	25.6
		B-1	HDIP	51-75	51-75	0.021/0	--	--	76.6
		D	HDIP	1-10	51-75	0.124/2	6.65	16.1	34.5
		D-1	PDIP	1-10	51-75	0.093/0	--	--	17.3
		B-1/JB	HDIP	1-10	51-75	0.309/1	0.72	3.24	9.69
		B-1/JB	HDIP	11-25	51-75	0.097/0	--	--	16.6
		B-1/JB	HDIP	51-75	51-75	0.406/0	--	--	3.96
	AIT	B-1/JB	HDIP	76-100	51-75	0.039/0	--	--	41.3
		B-1	HDIP	76-100	51-75	0.019/0	--	--	84.7
		D	HDIP	1-10	26-50	277.848/49	0.16	0.18	0.20
		D	HDIP	11-25	26-50	133.416/43	0.28	0.32	0.37
		D	HDIP	26-50	26-50	34.034/5	0.09	0.15	0.23
		D	HDIP	26-50	51-75	27.431/4	0.08	0.15	0.25
		D	HDIP	51-75	26-50	27.440/16	0.56	0.69	0.86
		D	HDIP	51-75	51-75	2.435/0	--	--	0.66
		D	HDIP	76-100	26-50	22.905/5	0.14	0.22	0.35
		D	HDIP	76-100	51-75	1.191/0	--	--	1.35
	GBC	D-1	PDIP	1-10	26-50	1085.157/246	0.21	0.23	0.24
		D-1	PDIP	11-25	26-50	370.108/83	0.20	0.22	0.25
		D-1	PDIP	11-25	51-75	7.316/1	0.03	0.14	0.41
		D-1	PDIP	26-50	26-50	291.719/36	0.11	0.12	0.14
		D-1	PDIP	26-50	51-75	137.703/19	0.11	0.14	0.17
		D-1	PDIP	51-75	26-50	94.520/8	0.06	0.08	0.12
		D-1	PDIP	51-75	51-75	44.918/1	0.01	0.02	0.07
		D-1	PDIP	76-100	26-50	227.682/23	0.08	0.10	0.12
		D-1	PDIP	76-100	51-75	1.743/0	--	--	0.92
		D	HDIP	1-10	26-50	96.435/30	0.26	0.31	0.37
		D	HDIP	11-25	26-50	4.428/6	0.88	1.36	2.05
		D	HDIP	26-50	26-50	40.154/8	0.14	0.20	0.28
	GF	D	HDIP	1-10	26-50	96.435/30	0.26	0.31	0.37
		D	HDIP	11-25	26-50	4.428/6	0.88	1.36	2.05

TABLE 5: GENERIC FAILURE RATES - FIELD DATA (CON'T)

OPERATIONAL TYPE	APPLICATION ENVIRONMENT	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)/ QTY. FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
CHOS (cont'd)	GF (cont'd)	D	HDIP	51-75	26-50	12.347/2	0.07	0.16	0.35
		D	HDIP	76-100	26-50	16.455/2	0.05	0.12	0.26
		B-1	HFPK	11-25	51-75	0.075/0	--	--	21.5
		B-2/N	HFPK	1-10	51-75	0.210/0	--	--	7.66
		B-1	HFPK	1-10	51-75	0.075/0	--	--	21.5
		C-1	HFPK	1-10	51-75	2.069/0	--	--	0.78
		D	HDIP	1-10	26-50	0.177/1	1.26	5.65	16.9
		D-1	PDIP	1-10	26-50	1.102/1	0.20	0.91	2.72
		D-1	PDIP	11-25	26-50	0.059/0	--	--	27.3
		D	CAN	1-10	26-50	1.998/1	0.11	0.50	1.50
ECL	GM	D-1	PDIP	1-10	26-50	427.835/105	0.23	0.25	0.27
		D-1	PDIP	11-25	26-50	0.210/0	--	--	7.66
		D-1	PDIP	11-25	51-75	0.871/0	--	--	1.85
		D-1	PDIP	1-10	26-50	10.092/0	--	--	0.16
		D-1	PDIP	11-25	26-50	3.364/0	--	--	0.48
		B-2	HFPK	11-25	26-50	0.021/0	--	--	76.64
		C-1	HFPK	1-10	76-100	0.525/2	1.50	3.81	8.15
		B-2/N	HFPK	1-10	76-100	0.004/0	--	--	402.
		D	HDIP	1-10	26-50	118.636/8	0.05	0.07	0.10
		D	HDIP	1-10	51-75	88.028/12	0.10	0.14	0.18
HTTL	AUF	D	HDIP	11-25	51-75	198.501/13	0.05	0.07	0.09
		D	HDIP	26-50	51-75	72.648/5	0.04	0.07	0.11
		D	HDIP	51-75	76-100	74.875/19	0.20	0.25	0.32
		D-1	PDIP	1-10	26-50	507.489/98	0.18	0.19	0.21
		D-1	PDIP	1-10	51-75	266.685/40	0.13	0.15	0.17
		D-1	PDIP	11-25	51-75	306.753/52	0.15	0.17	0.19
		D-1	PDIP	26-50	76-100	41.569/3	0.04	0.07	0.13
		D	HDIP	1-10	26-50	1.257/0	--	--	1.28
		D	HDIP	1-10	51-75	0.419/0	--	--	3.84
		B-1	HDIP	1-10	51-75	0.035/0	--	--	42.4
HTTL	AUF	B-1	HDIP	11-25	51-75	0.113/0	--	--	14.2
		B-1	HFPK	1-10	51-75	0.301/0	--	--	5.35

TABLE 5: GENERIC FAILURE RATES - FIELD DATA (CON'T)

OPERATIONAL TYPE	APPLICATION ENVIRONMENT	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)/ QTY. FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
HTTL (cont'd)	AUF (cont'd)	B-1	HFPK	1-10	76-100	2,746/0	--	--	0.59
		B-1	HFPK	11-25	76-100	1,166/0	--	--	1.38
		C-1	HFPK	1-10	51-75	1,091/0	--	--	1.48
		C-1	HFPK	1-10	76-100	29,899/15	0.39	0.50	0.64
		C-1	HFPK	11-25	76-100	3,085/0	--	--	0.52
		B-2/N	HDIP	1-10	76-100	0,422/0	--	--	3.81
		X	PDIP	11-25	26-50	0,153/1	1.43	6.54	1.92
		D	HDIP	1-10	26-50	154,622/29	0.16	0.19	0.22
		D	HDIP	11-25	26-50	18,307/5	0.17	0.27	0.41
		D-1	PDIP	1-10	26-50	229,445/57	0.22	0.25	0.28
		D-1	PDIP	1-10	51-75	55,922/15	0.21	0.27	0.34
		D-1	PDIP	11-25	26-50	0,515/0	--	--	3.13
		D-1	PDIP	11-25	51-75	76,493/18	0.19	0.24	0.29
		B-1/JB	HDIP	1-10	26-50	7,812/0	--	--	0.21
		B-1/JB	HDIP	11-25	51-75	0,324/0	--	--	4.97
		B-1/JB	HDIP	26-50	51-75	5,490/0	--	--	0.29
		B-1	HDIP	1-10	51-75	0,075/0	--	--	21.5
		D	HDIP	1-10	51-75	36,252/3	0.04	0.08	0.15
		D	HDIP	11-25	51-75	23,180/2	0.04	0.09	0.18
		D	HDIP	26-50	51-75	6,764/0	--	--	0.24
LTTL	AUF	JB	FPK	1-10	51-75	1,392/0	--	--	1.15
		B-1	FPK	1-10	51-75	0,075/0	--	--	21.5
		B-1	HDIP	11-25	51-75	0,602/0	--	--	2.67
		B-1	HDIP	11-25	51-75	0,376/0	--	--	4.28
		D	HDIP	11-25	26-50	1,733/4	1.33	2.31	3.88
		D-1	PDIP	1-10	26-50	1272,966/448	0.34	0.35	0.37
		D-1	PDIP	11-25	26-50	814,539/303	0.35	0.37	0.39
		D-1	PDIP	11-25	51-75	7,558/1	0.03	0.13	0.40
		D-1	PDIP	26-50	26-50	379,570/92	0.22	0.24	0.27
		D-1	PDIP	26-50	51-75	200,263/94	0.43	0.47	0.51
		D-1	PDIP	51-75	26-50	104,298/44	0.37	0.42	0.48
		B-2	HFPK	1-10	26-50	1,025/0	--	--	1.57
	GT	B-2	HFPK	1-10	26-50	1,025/0	--	--	1.57

TABLE 5: GENERIC FAILURE RATES - FIELD DATA (CON'T)

OPERATIONAL TYPE	APPLICATION ENVIRONMENT	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	Tj (°C)	PART HOURS (10 ⁶) / QTY. FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
LSTTL	GT (cont'd)	B-2	HFPK	11-25	26-50	0.084/0	--	--	19.2
		B-2	HFPK	26-50	26-50	0.418/0	--	--	3.85
		B-2	HFPK	51-75	26-50	0.063/0	--	--	25.6
		D	HDIP	1-10	51-75	0.760/0	--	--	2.12
		X	PDIP	1-10	26-50	1.056/0	--	--	1.52
		X	PDIP	11-25	26-50	7.120/0	--	--	0.23
		X	PDIP	26-50	26-50	6.480/0	--	--	0.25
		X	PDIP	51-75	26-50	5.400/0	--	--	0.30
		D	HDIP	1-10	26-50	3.874/1	0.06	0.26	0.77
		D	HDIP	11-25	26-50	4.610/8	1.21	1.74	2.47
		D-1	PDIP	1-10	26-50	3469.352/479	0.13	0.14	0.14
		D-1	PDIP	11-25	26-50	2372.018/302	0.12	0.13	0.13
STTL	AIF AIT AUF GB GBC	D-1	PDIP	26-50	26-50	1109.861/144	0.12	0.13	0.14
		D-1	PDIP	51-75	26-50	676.560/88	0.12	0.13	0.14
		D-1	PDIP	51-75	51-75	37.421/0	--	--	0.04
		B-1/JB	HDIP	1-10	51-75	0.043/0	--	--	37.4
		B-1/JB	HDIP	11-25	51-75	0.021/0	--	--	76.6
		B-1/JB	HDIP	1-10	51-75	0.039/0	--	--	41.3
		B-1/JB	HDIP	11-25	51-75	0.019/0	--	--	84.7
		B-1	HDIP	1-10	51-75	0.376/0	--	--	4.28
		D	HDIP	1-10	26-50	8.672/0	--	--	0.19
		D-1	PDIP	1-10	26-50	59.683/2	0.01	0.034	0.07
		D-1	PDIP	11-25	26-50	32.191/0	--	--	0.05
		X	PDIP	1-10	26-50	3.807/2	0.22	0.53	1.12
	GBC	X	PDIP	11-25	26-50	1.682/0	--	--	0.96
		X	PDIP	11-25	51-75	1.964/1	0.11	0.51	1.52
		X	PDIP	26-50	51-75	0.182/0	--	--	8.84
		D	HDIP	1-10	26-50	0.377/1	0.59	2.65	7.94
		D	HDIP	11-25	51-75	54.852/8	0.10	0.15	0.21
		D	HDIP	51-75	51-75	1.504/1	0.15	0.66	1.99
		D	HDIP	51-75	76-100	173.797/19	0.09	0.11	0.14
		D-1	PDIP	1-10	26-50	945.842/152	0.15	0.16	0.17

TABLE 5: GENERIC FAILURE RATES - FIELD DATA (CON'T)

OPERATIONAL TYPE	APPLICATION ENVIRONMENT	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)/ QTY. FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
STTL (cont'd)	GBC (cont'd)	D-1	PDIP	1-10	51-75	173.307/20	0.09	0.12	0.14
		D-1	PDIP	11-25	26-50	18.425/2	0.05	0.11	0.23
		D-1	PDIP	11-25	51-75	544.458/135	0.23	0.25	0.27
		D-1	PDIP	26-50	51-75	10.405/2	0.08	0.19	0.41
		D-1	PDIP	26-50	76-100	45.636/17	0.30	0.37	0.50
		D-1	PDIP	51-75	26-50	2.698/1	0.08	0.37	1.11
		D-1	PDIP	51-75	51-75	4.759/2	0.17	0.42	0.90
		D-1	PDIP	51-75	76-100	4.653/0	--	--	0.35
		D-1	PDIP	76-100	51-75	0.210/0	--	--	7.66
		B-1/JB	HDIP	1-10	26-50	31.173/1	0.01	0.03	0.10
		B-1/JB	HDIP	11-25	26-50	18.762/0	--	--	0.09
		B-1/JB	HDIP	11-25	51-75	4.050/0	--	--	0.40
		B-1/JB	HDIP	26-50	51-75	27.702/0	--	--	0.06
		B-1/JB	HDIP	51-75	26-50	0.054/0	--	--	29.8
		JB	HFPK	1-10	51-75	2.407/1	0.09	0.42	1.24
TTL	AIF	JB	HFPK	11-25	51-75	0.376/0	--	--	4.28
		B-1/JB	HDIP	1-10	51-75	0.082/2	10.1	24.4	52.2
		B-1/JB	HDIP	11-25	51-75	0.092/0	--	--	17.5
		B-1	HDIP	1-10	51-75	0.792/1	0.28	1.26	3.78
		B-1	HFPK	1-10	51-75	0.037/1	6.03	27.0	80.9
		B-1	HDIP	11-25	51-75	0.150/0	--	--	10.7
		B-1	HFPK	11-25	51-75	0.113/0	--	--	14.2
		B-1	HDIP	11-25	76-100	0.602/0	--	--	2.67
		B-1	HDIP	26-50	76-100	0.150/0	--	--	10.7
		B-1	HDIP	51-75	76-100	0.113/0	--	--	14.2
		B-2/N	HDIP	1-10	51-75	0.082/0	--	--	19.6
		B-2/N	HFPK	1-10	51-75	0.006/0	--	--	268.
		B-2/N	HDIP	11-25	51-75	0.015/0	--	--	107.
		B-2/N	HFPK	11-25	51-75	0.006/0	--	--	268.
		B-2/N	HFPK	51-75	76-100	0.008/0	--	--	201.
		D	HDIP	1-10	51-75	0.108/0	--	--	14.9
		D-1	PDIP	11-25	51-75	0.031/0	--	--	51.9

TABLE 5: GENERIC FAILURE RATES - FIELD DATA (CON'T)

OPERATIONAL TYPE	APPLICATION ENVIRONMENT	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	Tj (°C)	PART HOURS (10 ⁶)/ QTY. FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
TTL (cont'd)	AIT	B-1	HDIP	1-10	51-75	0.077/0	--	--	20.9
		B-1/JB	HDIP	1-10	51-75	0.058/0	--	--	27.8
		D	HDIP	1-10	51-75	0.380/0	--	--	4.24
		D	HDIP	11-25	51-75	0.076/0	--	--	21.2
		D	HDIP	26-50	51-75	0.608/0	--	--	2.65
		D	HDIP	26-50	76-100	3.154/0	--	--	0.51
		JB	HFPK	1-10	51-75	6.696/0	--	--	0.24
		JB	HFPK	1-10	76-100	3.234/1	0.07	0.31	0.93
		JB	HFPK	11-25	76-100	2.107/0	--	--	0.76
		B-1	HFPK	1-10	51-75	16.478/0	--	--	0.10
		B-1	HDIP	1-10	51-75	4.514/1	0.05	0.22	0.66
		B-1	HFPK	1-10	76-100	6.772/0	--	--	0.24
		B-1	HDIP	1-10	76-100	1.054/0	--	--	1.53
		B-1	HFPK	11-25	76-100	7.630/1	0.03	0.13	0.39
		B-1	HDIP	11-25	76-100	3.574/0	--	--	0.45
	AUF	B-1	HFPK	26-50	76-100	1.542/0	--	--	1.04
		B-1	HDIP	26-50	76-100	0.487/2	1.69	4.11	8.79
		B-1	HFPK	26-50	101-125	2.859/0	--	--	0.56
		B-1	HDIP	26-50	101-125	0.075/0	--	--	7.66
		B-1	HFPK	51-75	76-100	0.406/0	--	--	3.96
		B-1	HDIP	51-75	76-100	0.226/0	--	--	7.12
		B-1	HFPK	51-75	101-125	0.301/0	--	--	5.35
		B-1	HDIP	51-75	101-125	0.301.0	--	--	5.35
		C-1	HFPK	1-10	51-75	48.708/13	0.20	0.27	0.35
		C-1	HFPK	1-10	76-100	24.410/17	0.55	0.70	0.88
		C-1	HFPK	11-25	76-100	44.531/12	0.20	0.27	0.36
		C-1	HFPK	26-50	101-125	11.586/1	0.02	0.09	0.26
		C-1	HFPK	51-75	76-100	10.119/1	0.02	0.10	0.30
		C-1	HFPK	51-75	101-125	9.742/3	0.16	0.31	0.58
		C-1	HFPK	76-100	101-125	4.401/1	0.05	0.23	0.68
	B-2/N	HDIP	1-10	51-75	51-75	3.492/3	0.44	0.86	1.23
	B-2/N	HDIP	1-10	76-100	76-100	2.152/3	0.71	1.39	2.56

TABLE 5: GENERIC FAILURE RATES - FIELD DATA (CON'T)

OPERATIONAL TYPE	APPLICATION ENVIRONMENT	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)/ QTY. FAILURES	FAILURE RATES (F / 10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
TTL (cont'd)	AUF (cont'd)	B-2/N	HDIP	11-25	76-100	1,398/1	0.16	0.72	2.14
		B-2/N	HDIP	26-50	76-100	0,600/1	0.37	1.67	4.99
		B-2/N	HDIP	51-75	76-100	0,719/0	--	--	2.24
		D	HDIP	1-10	26-50	31,737/8	0.18	0.25	0.36
		D	HDIP	11-25	26-50	15,149/1	0.02	0.07	0.20
		D	HDIP	26-50	26-50	6,861/1	0.03	0.15	0.44
		D-1	PDIP	1-10	26-50	0,358/0	--	--	4.50
		D-1	PDIP	11-25	26-50	0,885/0	--	--	1.82
		D-1	PDIP	26-50	26-50	1,947/0	--	--	0.83
		D-1	PDIP	51-75	51-75	0,490/0	--	--	3.28
	G8C	X	PDIP	1-10	26-50	2,490/0	--	--	0.65
		X	PDIP	11-25	26-50	6,093/1	0.04	0.16	0.49
		X	PDIP	26-50	26-50	0,128/0	--	--	12.6
		X	PDIP	51-75	51-75	0,182/0	--	--	8.84
		D	HDIP	1-10	26-50	14,079/2	0.06	0.14	0.30
		D	HDIP	11-25	51-75	6,479/0	--	--	0.25
		D	HDIP	26-50	26-50	1,885/0	--	--	0.85
		D	HDIP	26-50	51-75	0,519/0	--	--	3.10
		D	HDIP	76-100	76-100	5,100/0	--	--	0.32
		D-1	PDIP	1-10	26-50	4111,776/773	0.18	0.19	0.19
GF		D-1	PDIP	1-10	51-75	631,808/182	0.27	0.29	0.31
		D-1	PDIP	11-25	26-50	720,975/198	0.26	0.27	0.29
		D-1	PDIP	11-25	51-75	1069,972/228	0.20	0.21	0.23
		D-1	PDIP	26-50	26-50	7,101/4	0.32	0.56	0.95
		D-1	PDIP	26-50	51-75	789,319/212	0.25	0.27	0.28
		D-1	PDIP	51-75	26-50	30,282/7	0.16	0.23	0.34
		D-1	PDIP	51-75	51-75	389,816/48	0.11	0.12	0.14
		D-1	PDIP	51-75	76-100	1,154/0	--	--	1.39
		D-1	PDIP	76-100	51-75	4,618/0	--	--	0.35
		B-1/JB	HDIP	1-10	26-50	63,770/3	0.02	0.05	0.09
		B-1/JB	HDIP	1-10	51-75	12,078/0	--	--	0.13
		B-1/JB	HDIP	11-25	26-50	30,124/0	--	--	0.05

TABLE 5: GENERIC FAILURE RATES - FIELD DATA (CON'T)

OPERATIONAL TYPE	APPLICATION ENVIRONMENT	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	Tj (°C)	PART HOURS (10 ⁶)/ QTY. FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
TTL (cont'd)	GF (cont'd)	B-1/JB	HDIP	26-50	51-75	11.082/0	--	--	0.15
		B-1/JB	HDIP	51-75	51-75	4.716/0	--	--	0.34
		D	HDIP	1-10	26-50	6.323/0	--	--	0.25
		D	HDIP	11-25	26-50	2.122/0	--	--	0.76
		D	HDIP	26-50	51-75	1.258/0	--	--	1.28
		JB	HDIP	11-25	26-50	0.014/0	--	--	115.
		B-1	HDIP	11-25	26-50	0.004/0	--	--	402.
		B-2	HFPK	1-10	26-50	0.021/0	--	--	76.6
		B-2	HDIP	11-25	26-50	0.084/0	--	--	19.2
		B-2	HFPK	26-50	51-75	0.063/0	--	--	25.6
		B-2	HFPK	51-75	51-75	0.126/0	--	--	12.8

DIGITAL MICROCIRCUIT OBSERVED AND MIL-HDBK-217C, NOTICE 1
PREDICTED FAILURE RATES
(Tables 6 and 7)

Tables 6 and 7 present a comparison of users' experienced field failure rates compared to those predicted by the monolithic bipolar and MOS, digital SSI/MSI microcircuit reliability prediction model specified in MIL-HDBK-217C, Notice 1, Reliability Prediction of Electronic Equipment.

Observed failure rates are based on the Chi-square distribution with a 60% confidence (20% lower and 80% upper) interval. The lower and upper limits were calculated using $2r$ and $2(r+1)$ degrees of freedom, respectively. Where failures were reported, the point estimate (maximum likelihood estimator) is given. The figures show the point estimate as a circle, while entries without failure are represented by a single "V" indicating the upper 80% Chi-square limit. For these data points the lower Chi-square limit and estimate are indeterminable.

Tables 6 and 7 present those factors used in computing device failure rates according to the reliability prediction model of MIL-HDBK-217C, Notice 1. The junction temperatures were calculated (as in the Detailed Listing) by the formula:

$$T_J = \theta_{JA} \cdot P_{TYP} + T_A$$

where T_J is the junction temperature, T_A is the ambient temperature, P_{TYP} is the typical power dissipation for the device and θ_{JA} is the thermal resistance (junction to ambient) of the package. When the necessary parameters were not available, the junction temperature was determined using the method set forth in MIL-HDBK-217C, Notice 1, Table 2.1.5-4.

Tables 6 and 7 along with Figures 1 through 16 present the military and commercial equipment observed vs. predicted failure rates for digital SSI/MSI devices. The data is presented in ascending order by device complexity.

TABLE 6: DIGITAL MICROCIRCUIT OBSERVED AND MIL-HDBK-217C, NOTICE 1
PREDICTED FAILURE RATES FOR MILITARY EQUIPMENT
(GROUPED BY COMPLEXITY)

DEVICE DESCRIPTION				APPLICATION			FAILURE DATA			FAILURE RATES (F/10 ⁶ HOURS)		
OBS NO.	OPERATIONAL TYPE	COMPLEX. (GATES)	PACKAGE TYPE	T _j (°C)	SCREEN CLASS	APPL. ENV.	PART HOURS (10 ⁶)	QUANTITY FAILURES	OBSERVED		PREDICTED MIL-HDBK-217C NOTICE 1	
									20 C.L.	POINT ESTIMATE		FOR C.L.
1	HTTL	1	HDIP-14	27	D	GB	14.925	0	-	-	0.11	0.09
2	STTL	1	HDIP-16	27	B-1/JB	GF	1.458	1	0.15	0.69	2.05	0.05
3	TTL	1	HFPK-14	71	C-1	AUF	5.906	0	-	-	0.27	0.41
4	HTTL	2	HDIP-14	30	D	GB	24.365	3	0.06	0.12	0.23	0.09
5	HTTL	2	HDIP-14	35	D	GB	16.931	1	0.01	0.06	0.18	0.09
6	HTTL	2	HFPK-14	79	C-1	AUF	15.947	4	0.14	0.25	0.42	0.43
7	L TTL	2	HDIP-14	56	D	AIT	3.002	1	0.07	0.33	1.00	0.32
8	STTL	2	HDIP-14	35	B-1/JB	GF	12.438	0	-	-	0.13	0.04
9	TTL	2	HDIP-14	30	B-1/JB	GF	6.499	0	-	-	0.25	0.04
10	TTL	2	HFPK-14	73	C-1	AUF	6.393	4	0.36	0.63	1.25	0.43
11	CMOS	3	HDIP-14	41	D	GF	9.120	6	0.43	0.66	1.00	0.25
12	HTTL	3	HDIP-14	30	D	GB	12.409	3	0.12	0.24	0.44	0.09
13	HTTL	3	HDIP-14	37	D	GB	17.993	2	0.05	0.11	0.24	0.10
14	HTTL	3	HFPK-14	79	C-1	AUF	2.407	2	0.34	0.83	1.78	0.44
15	L TTL	3	HDIP-14	56	D	AIT	6.346	1	0.04	0.16	0.47	0.33
16	TTL	3	HFPK-14	74	B-1	AUF	4.100	0	-	-	0.39	0.10
17	TTL	3	HFPK-14	74	C-1	AUF	10.082	1	0.02	0.10	0.30	0.43
18	CMOS	4	HDIP-14	41	D	GF	54.000	6	0.07	0.11	0.17	0.25
19	HTTL	4	HDIP-14	35	D	GB	21.928	1	0.01	0.05	0.14	0.10
20	HTTL	4	HFPK-14	81	C-1	AUF	4.851	5	0.64	1.03	1.63	0.46
21	L TTL	4	HDIP-14	57	D	AIT	15.390	1	0.01	0.06	0.19	0.34
22	TTL	4	HDIP-14	31	B-1/JB	GF	22.320	1	0.01	0.04	0.13	0.04
23	TTL	4	HFPK-14	75	B-1	AUF	11.248	0	-	-	0.14	0.10
24	TTL	4	HFPK-14	75	C-1	AUF	25.388	8	0.22	0.32	0.45	0.45
25	TTL	4	HDIP-14	75	B-2/NONE	AUF	2.212	3	0.69	1.36	2.49	0.76
26	HTTL	5	HDIP-14	35	D	GB	7.846	10	0.93	1.27	1.74	0.10
27	CMOS	6	HDIP-14	41	D	GF	19.941	15	0.59	0.75	0.96	0.26
28	HTTL	6	HDIP-14	39	D	GB	26.400	7	0.18	0.27	0.39	0.10
29	HTTL	6	HFPK-14	88	C-1	AUF	5.754	3	0.27	0.52	0.96	0.48
30	L TTL	6	HDIP-14	56	D	AIT	10.906	0	-	-	0.15	0.34
31	STTL	6	HDIP-14	36	B-1/JB	GF	7.632	0	-	-	0.21	0.04
32	TTL	6	HDIP-14	31	B-1/JB	GF	11.754	2	0.07	0.17	0.36	0.04
33	TTL	6	HFPK-14	63	B	AUF	0.602	1	0.37	1.66	0.67	0.04

TABLE 6: DIGITAL MICROCIRCUIT OBSERVED AND MIL-HDBK-217C, Notice 1
PREDICTED FAILURE RATES FOR MILITARY EQUIPMENT
(GROUPED BY COMPLEXITY) (CONTINUED)

DEVICE DESCRIPTION			APPLICATION		FAILURE DATA		FAILURE RATES (F/10 ⁶ HOURS)		
OBS NO.	OPERATIONAL TYPE	COMPLEX. (GATES)	PACKAGE TYPE	T _j (°C)	SCREEN CLASS	APPL. ENV.	PART HOURS (10 ⁶)	QUANTITY FAILURES	PREDICTED MIL-HDBK-217C NOTICE 1
							70% C.L.	OBSERVED POINT ESTIMATE	80% C.L.
34	TTL	6	HDIP-14	75	B-1	AUF	4.138	1	0.72
35	TTL	6	HFPK-14	75	C-1	AUF	21.068	1	0.14
36	TTL	6	HFPK-14	78	JB	AUF	2.557	1	1.17
37	TTL	7	HDIP-16	54	B-1/JB	GF	10.998	0	0.15
38	TTL	8	HDIP-14	35	B-1/JB	GF	19.080	0	0.08
39	TTL	8	HFPK-14	76	C-1	AUF	1.201	4	5.60
40	TTL	8	HFPK-14	83	C-1	AUF	1.092	3	5.05
41	HTTL	12	HDIP-14	45	D	GB	11.700	0	0.14
42	LTTL	12	HDIP-14	56	D	AIT	13.186	1	0.23
43	STTL	12	HDIP-14	35	B-1/JB	GF	6.066	0	0.27
44	TTL	12	HDIP-14	34	B-1/JB	GF	5.922	0	0.27
45	TTL	12	HFPK-14	81	C-1	AUF	2.971	1	1.01
46	LTTL	14	HDIP-16	58	D	AIT	6.118	0	0.26
47	TTL	15	HFPK-16	81	C-1	AUF	0.903	1	3.32
48	HTTL	16	HDIP-16	43	D	GB	6.608	5	1.20
49	STTL	16	HDIP-16	45	B-1/JB	GF	4.662	0	0.35
50	TTL	16	HDIP-16	41	B-1/JB	GF	10.098	0	0.16
51	TTL	16	HFPK-14	79	C-1	AUF	5.340	1	0.56
52	TTL	16	HDIP-16	79	B-2/NONE	AUF	0.937	1	3.20
53	TTL	17	HFPK-16	85	C-1	AUF	11.473	2	0.37
54	TTL	18	HFPK-16	87	C-1	AUF	11.730	5	0.67
55	TTL	19	HDIP-16	39	B-1/JB	GF	5.094	0	0.32
56	CMOS	20	HDIP-16	42	D	GF	1.249	3	4.42
57	TTL	21	HFPK-14	92	C-1	AUF	5.154	1	0.58
58	CMOS	23	HDIP-16	47	D	GF	3.180	3	1.73
59	STTL	24	HDIP-16	52	B-1/JB	GF	4.030	0	0.40
60	TTL	24	HDIP-16	39	B-1/JB	GF	7.236	0	0.22
61	LTTL	25	HDIP-24	60	D	AIT	3.040	1	0.99
62	CMOS	30	HDIP-16	50	D	GF	10.200	2	0.42
63	CMOS	31	HDIP-16	42	D	GF	7.085	3	0.78
64	TTL	31	HDIP-16	50	B-1/JB	GF	0.774	1	3.87
65	CMOS	32	HDIP-16	45	D	GF	3.754	2	1.14

TABLE 6: DIGITAL MICROCIRCUIT OBSERVED AND MIL-HDBK-217C, Notice 1
PREDICTED FAILURE RATES FOR MILITARY EQUIPMENT
(GROUPED BY COMPLEXITY) (CONTINUED)

DEVICE DESCRIPTION			APPLICATION		FAILURE DATA		FAILURE RATES (F/10 ⁶ HOURS)		
OBS. NO.	OPERATIONAL TYPE	COMPLEX. (GATES)	T _j (°C)	SCREEN CLASS	APPL. ENV.	PART HOURS (10 ⁶)	QUANTITY FAILURES	20% C.L.	PREDICTED MIL-HDBK-217C NOTICE 1
66	CMOS	36	41	D	GF	29.315	3	0.05	0.19
67	STTL	36	66	B-1/JB	GF	9.552	0	-	0.17
68	TTL	36	61	B-1/JB	GF	26.370	0	-	0.06
69	LTTL	37	57	D	AIT	5.168	0	-	0.31
70	TTL	39	92	B-1	AUF	0.224	2	3.68	19.1
71	TTL	40	106	C-1	AUF	7.561	1	0.03	0.40
72	TTL	48	99	B-2/N	AUF	0.600	1	0.37	1.67
73	CMOS	56	42	D	GF	12.347	2	0.07	0.16
74	TTL	57	89	C-1	AUF	10.119	1	0.02	0.10
75	TTL	63	115	C-1	AUF	4.401	1	0.05	0.23
76	TTL	66	107	C-1	AUF	7.297	3	0.21	0.41
77	CMOS	86	47	D	GF	16.455	2	0.05	0.12
									0.33
									0.06
									0.06
									0.42
									0.20
									0.87
									1.31
									0.35
									0.81
									1.67
									1.58
									0.40

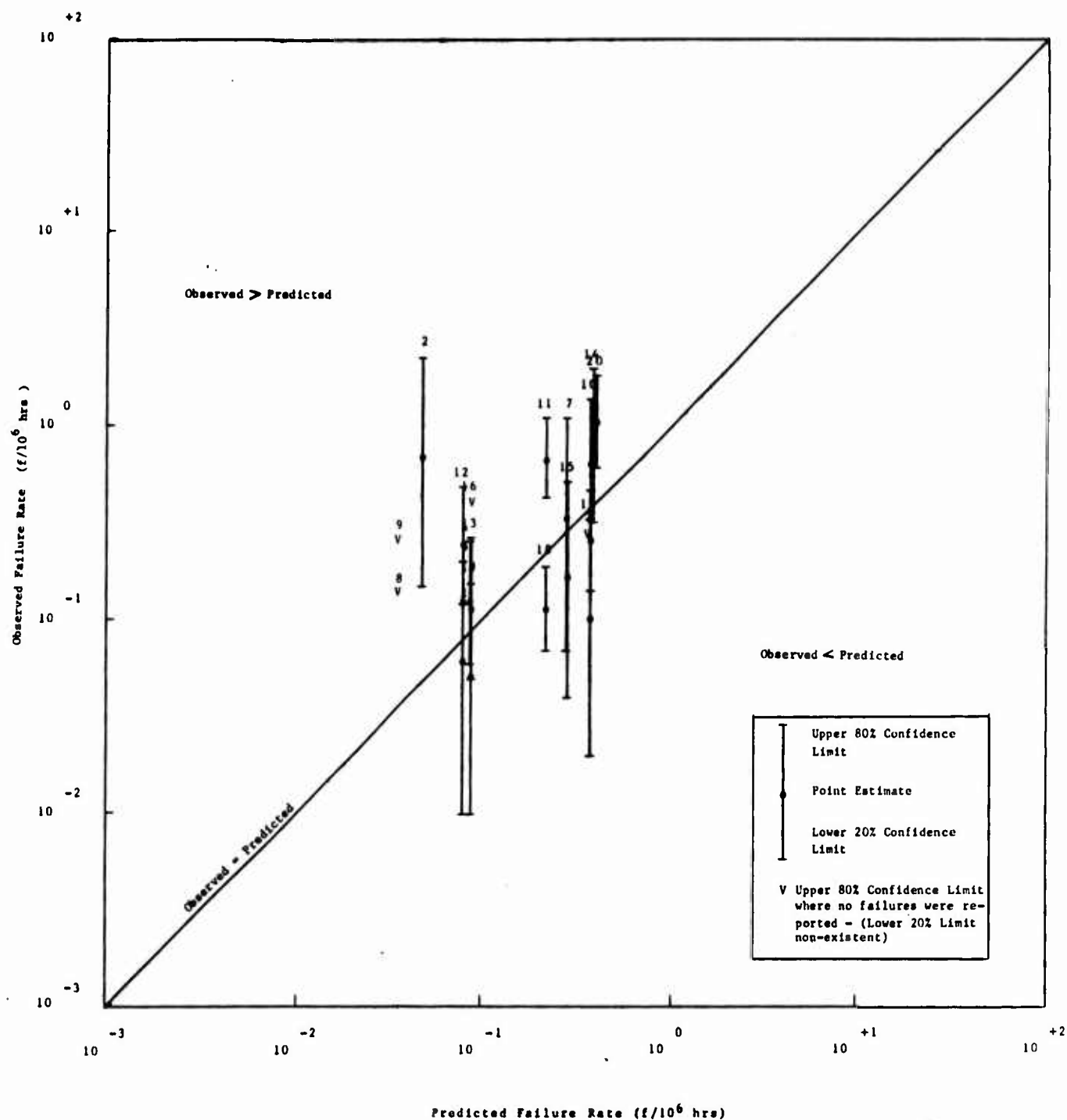


Figure 1: Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1 Predicted Failure Rates from Military Equipment, Part I (Observations 1-20)

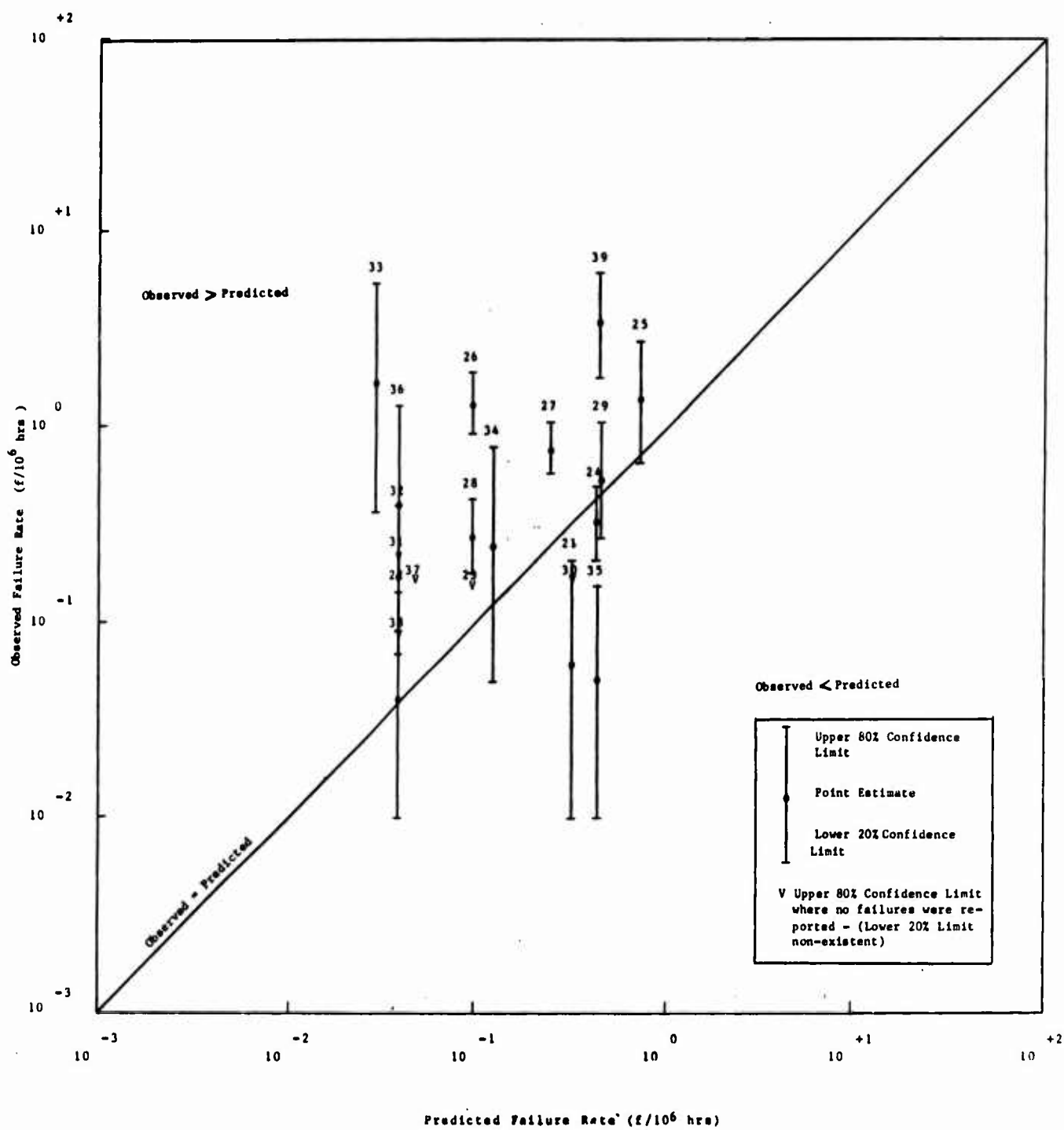


Figure 2: Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1 Predicted Failure Rates from Military Equipment, Part II (Observations 21-39)

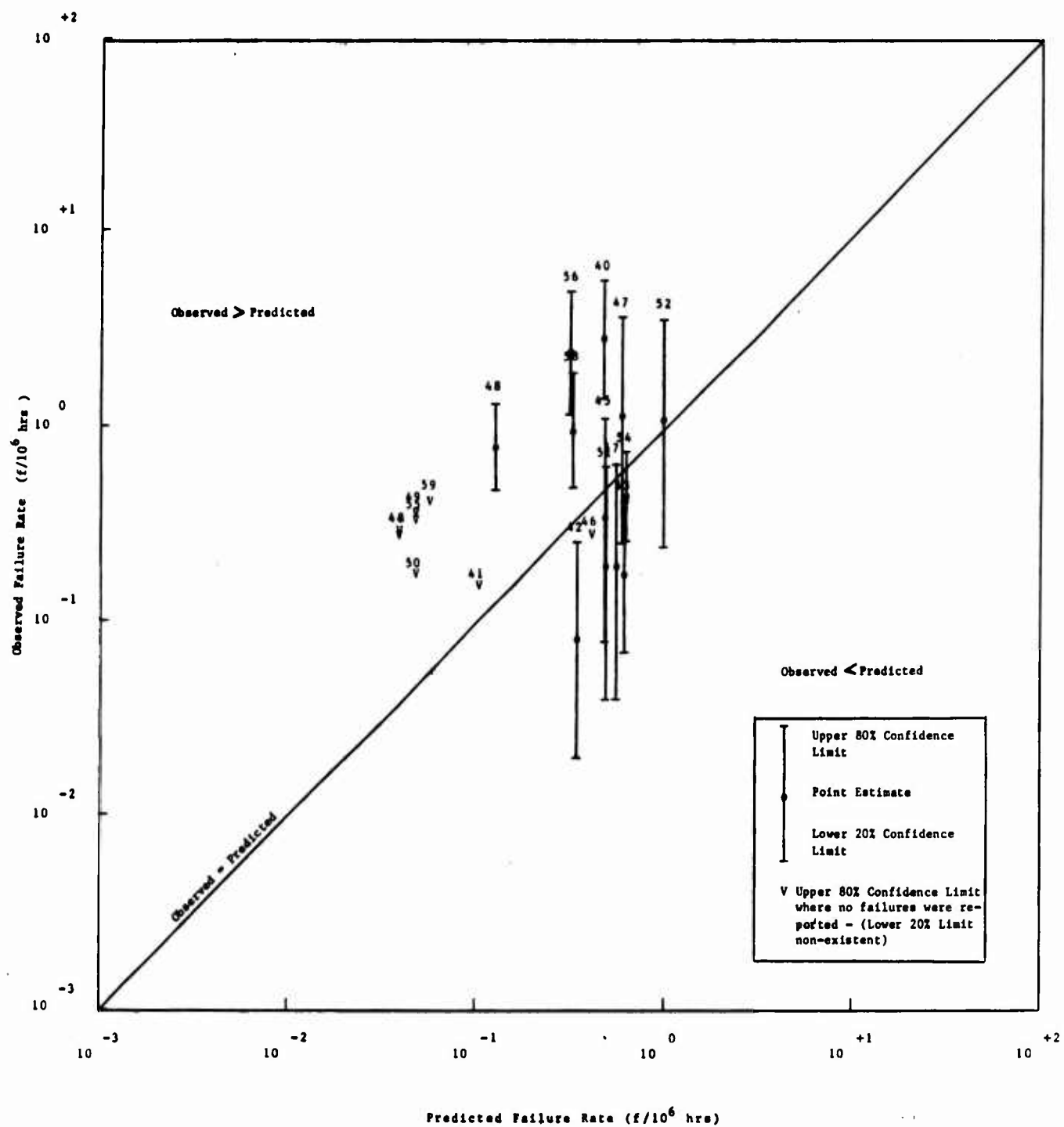


Figure 3: Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1 Predicted Failure Rates from Military Equipment, Part III (Observations 40-59)

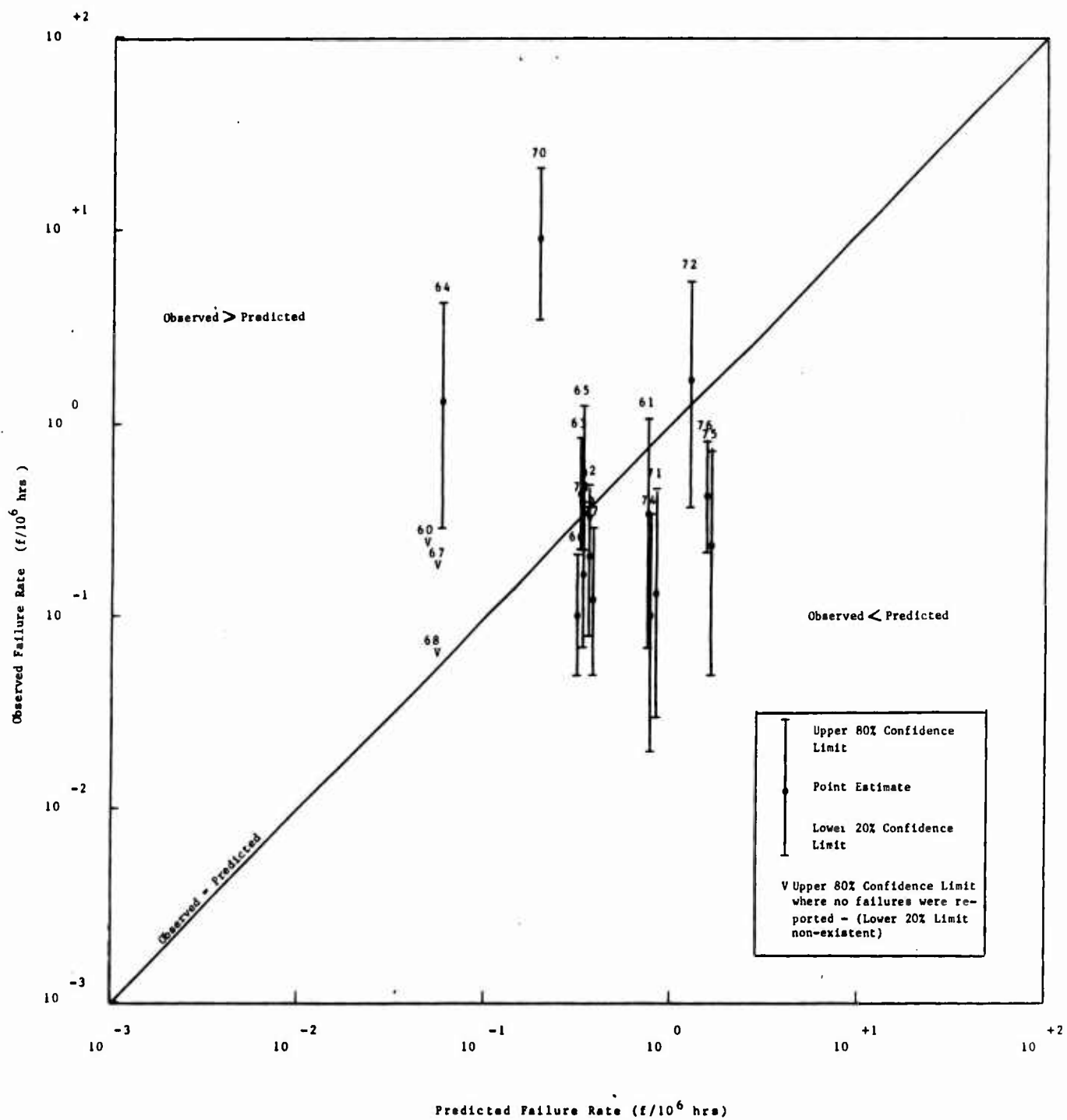


Figure 4: Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1 Predicted Failure Rates from Military Equipment, Part IV (Observations 60-77)

TABLE 7: DIGITAL MICROCIRCUIT OBSERVED AND MIL-HDBK-217C, Notice 1
PREDICTED FAILURE RATES FOR COMMERCIAL EQUIPMENT
(GROUPED BY COMPLEXITY)

DEVICE DESCRIPTION			APPLICATION			FAILURE DATA		FAILURE RATES (F/10 ⁶ HOURS)		
OBS NO.	OPERATIONAL TYPE	COMPLEX. (GATES)	PACKAGE TYPE	T _j (°C)	SCREEN CLASS	APPL. ENV.	PART HOURS (10 ⁶)	QUANTITY FAILURES	20% C.L.	PREDICTED MIL-HDBK-217C NOTICE 1
1	CMOS	1	PDIP-14	42	D-1	GBC	1.242	1	0.18	0.81
2	LSTTL	1	PDIP-14	41	D-1	GBC	66.603	4	0.03	0.06
3	STTL	1	PDIP-16	43	D-1	GBC	27.674	7	0.17	0.25
4	TTL	1	PDIP-14	41	D-1	GBC	137.729	28	0.17	0.20
5	CMOS	2	PDIP-14	41	D-1	GBC	27.423	5	0.11	0.18
6	ECL	2	PDIP-14	50	D-1	GBC	49.404	25	0.42	0.51
7	ECL	2	PDIP-16	50	D-1	GBC	90.978	20	0.18	0.22
8	ECL	2	HDIP-16	55	D	GBC	11.766	2	0.07	0.17
9	LSTTL	2	PDIP-14	41	D-1	GBC	143.641	5	0.02	0.03
10	LTL	2	PDIP-14	41	D-1	GBC	39.688	15	0.29	0.38
11	STTL	2	PDIP-14	48	D-1	GBC	65.698	4	0.03	0.06
12	TTL	2	PDIP-14	44	D-1	GBC	221.918	50	0.20	0.23
13	TTL	2	PDIP-16	45	D-1	GBC	87.464	24	0.23	0.27
14	CMOS	3	HDIP-14	41	D	GBC	23.023	5	0.13	0.22
15	CMOS	3	PDIP-14	42	D-1	GBC	166.874	40	0.21	0.24
16	ECL	3	PDIP-16	49	D-1	GBC	67.620	9	0.10	0.13
17	ECL	3	HDIP-16	63	D	GBC	1.531	2	0.54	1.31
18	HTTL	3	PDIP-14	43	D-1	GBC	22.065	2	0.04	0.09
19	HTTL	3	PDIP-14	50	D-1	GBC	66.384	4	0.03	0.06
20	LSTTL	3	PDIP-14	41	D-1	GBC	311.084	24	0.06	0.08
21	LTL	3	PDIP-14	41	D-1	GBC	135.151	72	0.48	0.53
22	STTL	3	PDIP-14	48	D-1	GBC	155.281	26	0.14	0.17
23	TTL	3	PDIP-14	34	D-1	GBC	60.819	13	0.16	0.21
24	TTL	3	PDIP-14	44	D-1	GBC	137.680	32	0.20	0.23
25	CMOS	4	PDIP-14	42	D-1	GBC	576.966	146	0.24	0.25
26	CMOS	4	HDIP-14	42	D	GBC	126.220	17	0.11	0.13
27	ECL	4	PDIP-16	50	D-1	GBC	387.472	49	0.11	0.13
28	ECL	4	HDIP-16	51	D	GBC	49.598	4	0.05	0.08
29	ECL	4	PDIP-14	54	D-1	GBC	7.342	1	0.03	0.14
30	ECL	4	HDIP-16	65	D	GBC	20.534	5	0.15	0.24
31	HTTL	4	PDIP-14	52	D-1	GBC	76.173	26	0.28	0.34
32	LSTTL	4	PDIP-14	43	D-1	GBC	1951.673	275	0.13	0.14

TABLE 7: DIGITAL MICROCIRCUIT OBSERVED AND MIL-HDBK-217C, Notice 1
PREDICTED FAILURE RATES FOR COMMERCIAL EQUIPMENT
(GROUPED BY COMPLEXITY) (CONTINUED)

DEVICE DESCRIPTION			APPLICATION			FAILURE DATA		FAILURE RATES (F/10 ⁶ HOURS)				
OBS NO.	OPERATIONAL TYPE	COMPLEX. (GATES)	PACKAGE TYPE	T _j (°C)	SCREEN CLASS	APPL. ENV.	PART HOURS (10 ⁶)	QUANTITY FAILURES	OBSERVED		PREDICTED MIL-HDBK-217C NOTICE 1	
									20% C.L.	POINT ESTIMATE		80% C.L.
33	L TTL	4	PDIP-14	31	D-1	GBC	101.746	80	0.71	0.79	0.87	0.20
34	L TTL	4	PDIP-14	41	D-1	GBC	674.339	187	0.26	0.28	0.30	0.21
35	S TTL	4	PDIP-14	35	D-1	GBC	57.144	2	0.01	0.03	0.07	0.21
36	S TTL	4	PDIP-14	54	D-1	GBC	355.333	31	0.07	0.09	0.10	0.23
37	S TTL	4	PDIP-14	68	D-1	GBC	18.330	2	0.04	0.11	0.23	0.27
38	T TL	4	HDIP-14	30	D	GBC	9.498	1	0.02	0.11	0.32	0.10
39	T TL	4	PDIP-14	35	D-1	GBC	10.175	9	0.63	0.88	1.23	0.21
40	T TL	4	PDIP-14	43	D-1	GBC	1855.787	323	0.16	0.17	0.18	0.21
41	T TL	4	PDIP-14	50	D-1	GBC	565.891	122	0.20	0.22	0.23	0.22
42	T TL	4	PDIP-14	57	D-1	GBC	139.714	31	0.19	0.22	0.26	0.23
43	T TL	4	PDIP-16	52	D-1	GBC	135.291	40	0.26	0.30	0.34	0.26
44	H TTL	5	PDIP-14	45	D-1	GBC	30.190	16	0.42	0.53	0.67	0.22
45	L STTL	5	PDIP-14	41	D-1	GBC	42.174	2	0.02	0.05	0.10	0.22
46	L TTL	5	PDIP-14	41	D-1	GBC	17.700	2	0.05	0.11	0.24	0.21
47	S TTL	5	PDIP-14	44	D-1	GBC	309.437	63	0.18	0.20	0.23	0.22
48	T TL	5	PDIP-14	43	D-1	GBC	48.754	5	0.06	0.10	0.16	0.21
49	CMOS	6	PDIP-14	42	D-1	GBC	19.701	12	0.46	0.61	0.81	0.29
50	CMOS	6	PDIP-16	42	D-1	GBC	271.691	39	0.12	0.14	0.17	0.32
51	CMOS	6	HDIP-14	42	D	GBC	13.990	1	0.02	0.07	0.21	0.12
52	CMOS	6	HDIP-16	42	D	GBC	36.285	21	0.47	0.58	0.71	0.14
53	ECL	6	PDIP-14	65	D-1	GBC	8.340	7	0.57	0.84	1.23	0.26
54	H TTL	6	PDIP-14	50	D-1	GBC	48.450	21	0.35	0.43	0.53	0.23
55	L STTL	6	PDIP-14	44	D-1	GBC	856.421	151	0.16	0.18	0.19	0.22
56	L TTL	6	PDIP-14	31	D-1	GBC	10.175	8	0.55	0.79	1.12	0.21
57	L TTL	6	PDIP-14	41	D-1	GBC	242.034	67	0.25	0.28	0.31	0.22
58	S TTL	6	PDIP-14	50	D-1	GBC	183.449	37	0.17	0.20	0.23	0.23
59	T TL	6	HDIP-14	31	D	GBC	17.481	2	0.05	0.11	0.24	0.10
60	T TL	6	PDIP-14	45	D-1	GBC	783.401	142	0.17	0.18	0.20	0.22
61	T TL	6	PDIP-14	57	D-1	GBC	300.909	84	0.25	0.28	0.31	0.24
62	ECL	7	HDIP-16	63	D	GBC	4.547	1	0.05	0.22	0.66	0.14
63	T TL	7	PDIP-16	70	D-1	GBC	14.835	5	0.21	0.34	0.53	0.32
64	CMOS	8	PDIP-16	42	D-1	GBC	14.445	3	0.11	0.21	0.38	0.34

TABLE 7: DIGITAL MICROCIRCUIT OBSERVED AND MIL-HDBK-217C, Notice 1
PREDICTED FAILURE RATES FOR COMMERCIAL EQUIPMENT
(GROUPED BY COMPLEXITY) (CONTINUED)

DEVICE DESCRIPTION			APPLICATION			FAILURE DATA			FAILURE RATES (F/10 ⁶ HOURS)			
OBS NO.	OPERATIONAL TYPE	COMPLEX. (GATES)	PACKAGE TYPE	T _j (°C)	SCREEN CLASS	APPL. ENV.	PART HOURS (10 ⁶)	QUANTITY FAILURES	20% C.L.	POINT ESTIMATE	80% C.L.	PREDICTED MIL-HDBK-217C NOTICE 1
65	CMOS	8	HDIP-16	41	D	GBC	25.565	1	0.01	0.04	0.12	0.14
66	HTTL	8	PDIP-14	49	D-1	GBC	3.886	2	0.21	0.51	1.10	0.23
67	LSTTL	8	PDIP-16	42	D-1	GBC	20.797	3	0.07	0.14	0.27	0.26
68	L TTL	8	PDIP-14	35	D-1	GBC	10.175	5	0.30	0.49	0.78	0.22
69	L TTL	8	PDIP-14	43	D-1	GBC	19.731	11	0.41	0.56	0.75	0.23
70	TTL	8	PDIP-14	49	D-1	GBC	71.994	25	0.29	0.35	0.42	0.23
71	TTL	8	PDIP-16	50	D-1	GBC	62.868	11	0.13	0.17	0.24	0.27
72	TTL	8	PDIP-16	70	D-1	GBC	22.329	2	0.04	0.09	0.19	0.33
73	ECL	10	PDIP-14	53	D-1	GBC	109.792	17	0.12	0.15	0.20	0.25
74	ECL	10	PDIP-14	65	D-1	GBC	34.804	9	0.18	0.26	0.36	0.29
75	HTTL	10	PDIP-14	50	D-1	GBC	25.870	1	0.01	0.04	0.12	0.24
76	LSTTL	10	PDIP-14	44	D-1	GBC	23.980	12	0.38	0.50	0.66	0.24
77	LSTTL	10	PDIP-20	46	D-1	GBC	43.711	3	0.04	0.07	0.13	0.35
78	L TTL	10	PDIP-14	46	D-1	GBC	11.603	1	0.02	0.09	0.26	0.24
79	STTL	10	PDIP-14	50	D-1	GBC	2.579	2	0.32	0.78	1.66	0.25
80	TTL	10	PDIP-14	53	D-1	GBC	24.236	6	0.16	0.25	0.37	0.25
81	TTL	11	PDIP-14	47	D-1	GBC	28.141	3	0.05	0.11	0.20	0.24
82	CMOS	12	PDIP-14	43	D-1	GBC	15.841	2	0.05	0.13	0.27	0.33
83	ECL	12	HDIP-16	67	D	GBC	14.663	7	0.32	0.48	0.70	0.16
84	HTTL	12	PDIP-14	60	D-1	GBC	16.635	1	0.01	0.06	0.18	0.28
85	LSTTL	12	PDIP-14	42	D-1	GBC	636.315	83	0.12	0.13	0.14	0.24
86	L TTL	12	PDIP-14	31	D-1	GBC	30.524	38	1.07	1.24	1.45	0.22
87	L TTL	12	PDIP-14	42	D-1	GBC	304.831	134	0.40	0.44	0.47	0.24
88	STTL	12	PDIP-14	57	D-1	GBC	259.698	50	0.17	0.19	0.22	0.28
89	TTL	12	PDIP-14	35	D-1	GBC	2.617	2	0.32	0.76	1.64	0.22
90	TTL	12	PDIP-14	50	D-1	GBC	485.628	142	0.27	0.29	0.32	0.25
91	CMOS	14	PDIP-14	43	D-1	GBC	4.571	2	0.18	0.44	0.94	0.34
92	ECL	14	PDIP-16	65	D-1	GBC	256.910	39	0.13	0.15	0.18	0.35
93	HTTL	14	PDIP-14	68	D-1	GBC	5.603	1	0.04	0.18	0.53	0.33
94	L TTL	14	PDIP-14	42	D-1	GBC	55.430	15	0.21	0.27	0.35	0.24
95	L TTL	14	PDIP-16	52	D-1	GBC	45.845	17	0.29	0.37	0.47	0.31
96	STTL	14	PDIP-16	64	D-1	GBC	10.946	3	0.14	0.27	0.50	0.38
97	TTL	14	PDIP-16	57	D-1	GBC	97.144	5	0.03	0.05	0.08	0.28

TABLE 7: DIGITAL MICROCIRCUIT OBSERVED AND MIL-HDBK-217C, Notice 1
PREDICTED FAILURE RATES FOR COMMERCIAL EQUIPMENT
(GROUPED BY COMPLEXITY) (CONTINUED)

DEVICE DESCRIPTION			APPLICATION			FAILURE DATA		FAILURE RATES (F/10 ⁶ HOURS)				
OBS NO.	OPERATIONAL TYPE	COMPLEX. (GATES)	PACKAGE TYPE	T _j (°C)	SCREEN CLASS	APPL. ENV.	PART HOURS (10 ⁶)	QUANTITY FAILURES	20% C.L.	OBSERVED POINT ESTIMATE	80% C.L.	PREDICTED MIL-HDBK-217C NOTICE 1
98	LSTTL	15	PDIP-16	45	D-1	GBC	352.841	35	0.08	0.10	0.12	0.29
99	L TTL	15	PDIP-14	44	D-1	GBC	24.274	3	0.06	0.12	0.23	0.25
100	STTL	15	PDIP-16	60	D-1	GBC	6.551	2	0.13	0.31	0.65	0.35
101	TTL	15	PDIP-14	57	D-1	GBC	145.297	55	0.34	0.38	0.43	0.29
102	ECL	16	PDIP-14	54	D-1	GBC	19.122	5	0.16	0.26	0.41	0.28
103	ECL	16	PDIP-16	59	D-1	GBC	27.628	8	0.20	0.29	0.39	0.33
104	HTTL	16	PDIP-14	51	D-1	GBC	22.487	3	0.07	0.13	0.25	0.27
105	HTTL	16	PDIP-16	60	D-1	GBC	19.595	13	0.51	0.66	0.87	0.34
106	LSTTL	16	PDIP-16	45	D-1	GBC	453.217	83	0.17	0.18	0.20	0.30
107	L TTL	16	PDIP-16	44	D-1	GBC	76.009	5	0.04	0.07	0.10	0.29
108	STTL	16	HDIP-16	54	D	GBC	54.852	8	0.10	0.15	0.21	0.13
109	STTL	16	PDIP-16	54	D-1	GBC	217.578	74	0.31	0.34	0.38	0.29
110	STTL	16	PDIP-16	65	D-1	GBC	20.770	3	0.07	0.14	0.27	0.40
111	TTL	16	PDIP-14	50	D-1	GBC	176.415	43	0.21	0.24	0.28	0.26
112	TTL	16	PDIP-16	55	D-1	GBC	53.173	7	0.09	0.13	0.19	0.32
113	LSTTL	17	PDIP-16	43	D-1	GBC	82.472	13	0.12	0.16	0.21	0.29
114	L TTL	17	PDIP-16	45	D-1	GBC	90.687	37	0.35	0.41	0.48	0.29
115	STTL	17	PDIP-16	52	D-1	GBC	2.548	1	0.09	0.39	1.18	0.32
116	TTL	17	PDIP-16	54	D-1	GBC	53.468	15	0.22	0.28	0.36	0.32
117	CMOS	18	PDIP-16	43	D-1	GBC	14.677	1	0.02	0.07	0.20	0.39
118	CMOS	18	HDIP-16	43	D	GBC	4.369	1	0.05	0.23	0.69	0.16
119	LSTTL	18	PDIP-16	44	D-1	GBC	64.817	8	0.09	0.12	0.18	0.30
120	L TTL	18	PDIP-16	45	D-1	GBC	42.489	5	0.07	0.12	0.19	0.29
121	STTL	18	PDIP-16	70	D-1	GBC	4.982	1	0.04	0.20	0.60	0.46
122	TTL	18	PDIP-16	54	D-1	GBC	123.301	40	0.28	0.32	0.38	0.32
123	TTL	18	PDIP-16	60	D-1	GBC	86.590	24	0.23	0.28	0.34	0.34
124	CMOS	19	PDIP-16	42	D-1	GBC	29.765	4	0.08	0.13	0.23	0.37
125	LSTTL	19	PDIP-14	44	D-1	GBC	81.088	17	0.17	0.21	0.26	0.26
126	L TTL	19	PDIP-16	45	D-1	GBC	87.121	26	0.25	0.30	0.36	0.30
127	TTL	19	PDIP-16	55	D-1	GBC	92.716	9	0.07	0.10	0.14	0.33
128	CMOS	20	PDIP-16	42	D-1	GBC	8.831	2	0.09	0.23	0.48	0.38
129	LSTTL	20	PDIP-16	46	D-1	GBC	106.403	24	0.19	0.23	0.27	0.31

TABLE 7: DIGITAL MICROCIRCUIT OBSERVED AND MIL-HDBK-217C, Notice 1
PREDICTED FAILURE RATES FOR COMMERCIAL EQUIPMENT
(GROUPED BY COMPLEXITY) (CONTINUED)

DEVICE DESCRIPTION			APPLICATION			FAILURE DATA		FAILURE RATES (F/10 ⁶ HOURS)				
OBS NO.	OPERATIONAL TYPE	COMPLEX. (GATES)	PACKAGE TYPE	T _j (°C)	SCREEN CLASS	APPL. ENV.	PART HOURS (10 ⁶)	QUANTITY FAILURES	OBSERVED			PREDICTED MIL-HDBK-217C NOTICE 1
									20% C.L.	POINT ESTIMATE	80% C.L.	
130	L TTL	20	PDIP-16	41	D-1	GBC	10.175	5	0.30	0.49	0.78	0.29
131	L TTL	20	PDIP-16	51	D-1	GBC	7.558	1	0.03	0.13	0.40	0.33
132	TTL	20	PDIP-14	64	D-1	GBC	80.098	19	0.19	0.24	0.30	0.34
133	CMOS	23	PDIP-16	43	D-1	GBC	16.418	8	0.34	0.49	0.69	0.40
134	CMOS	24	PDIP-14	49	D-1	GBC	234.731	64	0.24	0.27	0.31	0.52
135	CMOS	24	HDIP-14	49	D	GBC	29.309	10	0.25	0.34	0.47	0.17
136	ECL	24	HDIP-16	65	D	GBC	105.160	4	0.02	0.04	0.06	0.18
137	LSTTL	24	PDIP-14	43	D-1	GBC	141.001	9	0.05	0.06	0.09	0.27
138	LSTTL	24	PDIP-16	45	D-1	GBC	242.154	20	0.07	0.08	0.10	0.32
139	L TTL	24	PDIP-16	55	D-1	GBC	137.162	28	0.17	0.20	0.24	0.36
140	TTL	24	PDIP-16	54	D-1	GBC	234.120	43	0.16	0.18	0.21	0.34
141	LSTTL	25	PDIP-14	45	D-1	GBC	64.272	11	0.13	0.17	0.23	0.28
142	L TTL	25	PDIP-14	42	D-1	GBC	19.181	8	0.29	0.42	0.59	0.27
143	L TTL	25	PDIP-16	45	D-1	GBC	17.937	6	0.20	0.33	0.51	0.31
144	TTL	25	PDIP-14	56	D-1	GBC	96.636	12	0.09	0.12	0.16	0.32
145	CMOS	26	PDIP-16	42	D-1	GBC	5.847	1	0.04	0.17	0.51	0.39
146	CMOS	26	HDIP-16	42	D	GBC	7.386	1	0.03	0.14	0.41	0.16
147	LSTTL	26	PDIP-14	45	D-1	GBC	29.498	2	0.03	0.07	0.15	0.29
148	TTL	26	PDIP-14	54	D-1	GBC	88.306	22	0.20	0.25	0.30	0.31
149	L TTL	27	PDIP-16	45	D-1	GBC	83.134	26	0.26	0.31	0.38	0.32
150	ECL	28	HDIP-16	63	D	GBC	1.184	1	0.19	0.84	2.53	0.18
151	CMOS	29	PDIP-16	43	D-1	GBC	3.708	1	0.06	0.27	0.81	0.42
152	TTL	29	PDIP-16	57	D-1	GBC	2.189	1	0.10	0.46	1.37	0.37
153	CMOS	30	PDIP-16	42	D-1	GBC	62.657	8	0.09	0.13	0.18	0.40
154	CMOS	30	HDIP-16	50	D	GBC	4.966	1	0.04	0.20	0.60	0.20
155	L TTL	30	PDIP-16	45	D-1	GBC	46.438	6	0.08	0.13	0.20	0.32
156	CMOS	31	PDIP-16	41	D-1	GBC	56.364	11	0.14	0.20	0.26	0.39
157	CMOS	31	PDIP-14	65	D-1	GBC	81.744	7	0.06	0.09	0.13	1.83
158	CMOS	32	PDIP-16	42	D-1	GBC	57.470	14	0.19	0.24	0.32	0.41
159	TTL	32	PDIP-16	60	D-1	GBC	29.033	3	0.05	0.10	0.19	0.40
160	L TTL	33	PDIP-16	43	D-1	GBC	10.532	1	0.02	0.09	0.28	0.32
161	TTL	34	PDIP-14	65	D-1	GBC	12.833	7	0.37	0.55	0.80	0.41

TABLE 7: DIGITAL MICROCIRCUIT OBSERVED AND MIL-HDBK-217C, Notice 1
PREDICTED FAILURE RATES FOR COMMERCIAL EQUIPMENT
(GROUPED BY COMPLEXITY) (CONTINUED)

DEVICE DESCRIPTION			APPLICATION			FAILURE DATA		FAILURE RATES (F/10 ⁶ HOURS)				
OBS NO.	OPERATIONAL TYPE	COMPLEX. (GATES)	PACKAGE TYPE	T _j (°C)	SCREEN CLASS	APPL. ENV.	PART HOURS (10 ⁶)	QUANTITY FAILURES	OBSERVED		PREDICTED MIL-HDBK-217C NOTICE 1	
									20% C.L.	POINT ESTIMATE		80% C.L.
162	CMOS	35	PDIP-16	41	D-1	GBC	28,120	6	0.14	0.21	0.32	0.40
163	CMOS	35	HDIP-16	41	D	GBC	5,704	2	0.14	0.35	0.75	0.16
164	TTL	35	PDIP-16	57	D-1	GBC	29,019	26	0.75	0.90	1.08	0.39
165	LSTTL	36	PDIP-14	48	D-1	GBC	737,154	112	0.14	0.15	0.17	0.34
166	LTTL	36	PDIP-14	50	D-1	GBC	31,120	12	0.29	0.39	0.51	0.33
167	STTL	36	PDIP-16	70	D-1	GBC	1,144	2	0.72	1.75	3.74	0.60
168	TTL	36	PDIP-14	60	D-1	GBC	60,305	14	0.18	0.23	0.30	0.38
169	TTL	36	PDIP-16	60	D-1	GBC	112,814	46	0.36	0.41	0.47	0.41
170	CMOS	37	PDIP-16	58	D-1	GBC	10,488	3	0.15	0.29	0.53	1.14
171	LTTL	37	PDIP-14	43	D-1	GBC	14,809	2	0.06	0.14	0.29	0.29
172	TTL	37	PDIP-14	60	D-1	GBC	19,989	3	0.08	0.15	0.28	0.38
173	LTTL	38	PDIP-16	48	D-1	GBC	47,067	11	0.17	0.23	0.31	0.36
174	CMOS	39	HDIP-16	42	D	GBC	10,817	1	0.02	0.09	0.28	0.17
175	LSTTL	39	PDIP-14	49	D-1	GBC	77,037	15	0.15	0.19	0.25	0.35
176	STTL	39	PDIP-14	78	D-1	GBC	3,672	1	0.06	0.27	0.82	0.75
177	TTL	39	PDIP-14	65	D-1	GBC	127,560	36	0.24	0.28	0.33	0.43
178	TTL	39	PDIP-16	65	D-1	GBC	28,958	19	0.53	0.66	0.82	0.47
179	LTTL	40	PDIP-16	48	D-1	GBC	6,164	4	0.04	0.07	0.11	0.36
180	LSTTL	41	PDIP-16	47	D-1	GBC	43,082	4	0.05	0.09	0.16	0.37
181	ECL	42	PDIP-16	87	D-1	GBC	40,401	3	0.04	0.07	0.14	0.85
182	TTL	43	PDIP-14	61	D-1	GBC	6,240	1	0.04	0.16	0.48	0.41
183	CMOS	44	PDIP-14	60	D-1	GBC	10,144	5	0.30	0.49	0.78	1.36
184	STTL	44	PDIP-14	76	D-1	GBC	21,215	15	0.55	0.71	0.91	0.74
185	TTL	44	PDIP-14	48	D-1	GBC	6,642	2	0.12	0.30	0.64	0.32
186	TTL	44	PDIP-14	60	D-1	GBC	57,721	8	0.10	0.14	0.20	0.41
187	CMOS	45	PDIP-16	58	D-1	GBC	22,266	4	0.10	0.18	0.30	1.21
188	CMOS	45	HDIP-16	60	D	GBC	27,431	4	0.08	0.15	0.25	0.32
189	LSTTL	45	PDIP-16	48	D-1	GBC	18,000	1	0.01	0.06	0.17	0.39
190	LTTL	45	PDIP-16	45	D-1	GBC	40,131	23	0.47	0.57	0.70	0.35
191	TTL	45	PDIP-16	65	D-1	GBC	41,074	4	0.06	0.10	0.16	0.49
192	CMOS	46	PDIP-16	50	D-1	GBC	10,166	2	0.08	0.20	0.42	0.68
193	CMOS	47	PDIP-16	47	D-1	GBC	13,107	2	0.06	0.15	0.33	0.57

TABLE 7: DIGITAL MICROCIRCUIT OBSERVED AND MIL-HDBK-217C, Notice 1
PREDICTED FAILURE RATES FOR COMMERCIAL EQUIPMENT
(GROUPED BY COMPLEXITY) (CONTINUED)

DEVICE DESCRIPTION			APPLICATION			FAILURE DATA		FAILURE RATES (F/10 ⁶ HOURS)				
OBS NO.	OPERATIONAL TYPE	COMPLEX. (GATES)	PACKAGE TYPE	T _j (°C)	SCREEN CLASS	APPL. ENV.	PART HOURS (10 ⁶)	QUANTITY FAILURES	OBSERVED		PREDICTED MIL-HDBK-217C NOTICE 1	
									20% C.L.	POINT ESTIMATE		80% C.L.
194	STTL	47	PDIP-16	83	D-1	GBC	6.725	1	0.03	0.15	0.45	1.02
195	TTL	47	PDIP-16	58	D-1	GBC	21.978	2	0.04	0.09	0.19	0.43
196	CMOS	48	HDIP-16	50	D	GBC	3.241	2	0.25	0.62	1.32	0.22
197	LSTTL	48	PDIP-16	49	D-1	GBC	66.227	11	0.12	0.17	0.22	0.41
198	LTL	48	PDIP-16	40	D-1	GBC	41.314	59	1.27	1.43	1.61	0.33
199	TTL	48	PDIP-16	56	D-1	GBC	14.446	3	0.11	0.21	0.38	0.42
200	TTL	48	PDIP-16	73	D-1	GBC	18.664	6	0.21	0.32	0.49	0.61
201	CMOS	49	PDIP-16	52	D-1	GBC	7.193	6	0.54	0.83	1.26	0.78
202	LSTTL	50	PDIP-16	49	D-1	GBC	208.475	25	0.10	0.12	0.14	0.41
203	LTL	50	PDIP-16	45	D-1	GBC	21.787	7	0.22	0.32	0.47	0.36
204	TTL	50	PDIP-16	73	D-1	GBC	70.745	10	0.10	0.14	0.19	0.62
205	LSTTL	51	PDIP-16	46	D-1	GBC	29.093	4	0.08	0.14	0.23	0.39
206	LTL	51	PDIP-16	43	D-1	GBC	21.220	3	0.07	0.14	0.26	0.35
207	TTL	51	PDIP-16	58	D-1	GBC	25.503	2	0.03	0.08	0.17	0.44
208	CMOS	52	HDIP-24	42	D	GBC	4.538	6	0.86	1.32	2.00	0.26
209	CMOS	52	PDIP-16	53	D-1	GBC	5.441	1	0.04	0.18	0.55	0.86
210	CMOS	53	PDIP-16	51	D-1	GBC	37.080	1	0.01	0.03	0.08	0.76
211	STTL	53	PDIP-16	83	D-1	GBC	3.721	2	0.22	0.54	1.15	1.09
212	LSTTL	54	PDIP-16	49	D-1	GBC	67.623	6	0.06	0.09	0.13	0.42
213	LTL	54	PDIP-16	45	D-1	GBC	58.855	27	0.38	0.46	0.55	0.37
214	STTL	54	HDIP-16	77	D	GBC	158.855	16	0.08	0.10	0.13	0.37
215	TTL	54	PDIP-16	72	D-1	GBC	9.979	16	1.26	1.60	2.04	0.64
216	TTL	56	PDIP-24	65	D-1	GBC	20.302	1	0.01	0.05	0.15	0.52
217	LSTTL	57	PDIP-16	49	D-1	GBC	228.895	16	0.05	0.07	0.09	0.43
218	TTL	57	PDIP-14	44	D-1	GBC	29.491	7	0.16	0.24	0.35	0.32
219	TTL	57	PDIP-16	70	D-1	GBC	119.046	10	0.06	0.08	0.11	0.59
220	CMOS	58	PDIP-16	45	D-1	GBC	32.009	4	0.07	0.12	0.21	0.53
221	CMOS	58	HDIP-16	45	D	GBC	7.623	8	0.73	1.01	1.49	0.19
222	STTL	58	PDIP-20	36	D-1	GBC	2.467	1	0.09	0.41	1.21	0.58
223	ECL	59	HDIP-16	77	D	GBC	59.519	16	0.21	0.27	0.34	0.31
224	LTL	59	PDIP-16	47	D-1	GBC	4.077	2	0.20	0.49	1.05	0.35
225	TTL	59	PDIP-16	74	D-1	GBC	12.766	3	0.12	0.23	0.43	0.70

TABLE 7: DIGITAL MICROCIRCUIT OBSERVED AND MIL-HDBK-217C, Notice 1
PREDICTED FAILURE RATES FOR COMMERCIAL EQUIPMENT
(GROUPED BY COMPLEXITY) (CONTINUED)

DEVICE DESCRIPTION				APPLICATION			FAILURE DATA		FAILURE RATES (F/10 ⁶ HOURS)			
OBS NO.	OPERATIONAL TYPE	COMPLEX. (GATES)	PACKAGE TYPE	T _j (°C)	SCREEN CLASS	APPL. ENV.	PART HOURS (10 ⁶)	QUANTITY FAILURES	OBSERVED		PREDICTED MIL-HDBK-217C NOTICE 1	
									20% C.L.	POINT ESTIMATE		80% C.L.
226	LSTTL	60	PDIP-16	49	D-1	GBC	101.662	16	0.12	0.16	0.20	0.44
227	L TTL	60	PDIP-24	50	D-1	GBC	14.008	8	0.40	0.57	0.81	0.56
228	TTL	60	PDIP-16	70	D-1	GBC	50.030	6	0.08	0.12	0.18	0.62
229	CMOS	62	PDIP-16	47	D-1	GBC	43.945	4	0.05	0.09	0.15	0.60
230	ECL	62	HDIP-16	76	D	GBC	1.275	1	0.17	0.78	2.35	0.51
231	LSTTL	62	PDIP-16	49	D-1	GBC	61.902	5	0.05	0.08	0.13	0.44
232	TTL	62	PDIP-16	65	D-1	GBC	107.562	9	0.06	0.08	0.12	0.53
233	LSTTL	63	PDIP-24	48	D-1	GBC	38.060	12	0.24	0.32	0.42	0.57
234	CMOS	64	HDIP-16	45	D	GBC	12.793	5	0.24	0.39	0.62	0.20
235	L TTL	65	PDIP-16	46	D-1	GBC	6.139	6	0.64	0.98	1.48	0.39
236	LSTTL	66	PDIP-14	50	D-1	GBC	11.712	1	0.02	0.09	0.26	0.43
237	STTL	66	HDIP-16	86	D	GBC	9.838	3	0.16	0.30	0.55	0.53
238	TTL	66	PDIP-16	73	D-1	GBC	17.728	16	0.71	0.90	1.15	0.71
239	LSTTL	70	PDIP-16	50	D-1	GBC	23.088	1	0.01	0.04	0.13	0.47
240	STTL	73	HDIP-28	65	D	GBC	1.492	1	0.15	0.67	2.01	0.43
241	CMOS	77	PDIP-16	45	D-1	GBC	33.212	6	0.12	0.18	0.27	0.55
242	CMOS	80	PDIP-16	48	D-1	GBC	13.601	4	0.17	0.29	0.49	0.66
243	CMOS	86	PDIP-16	48	D-1	GBC	60.224	12	0.15	0.20	0.26	0.70

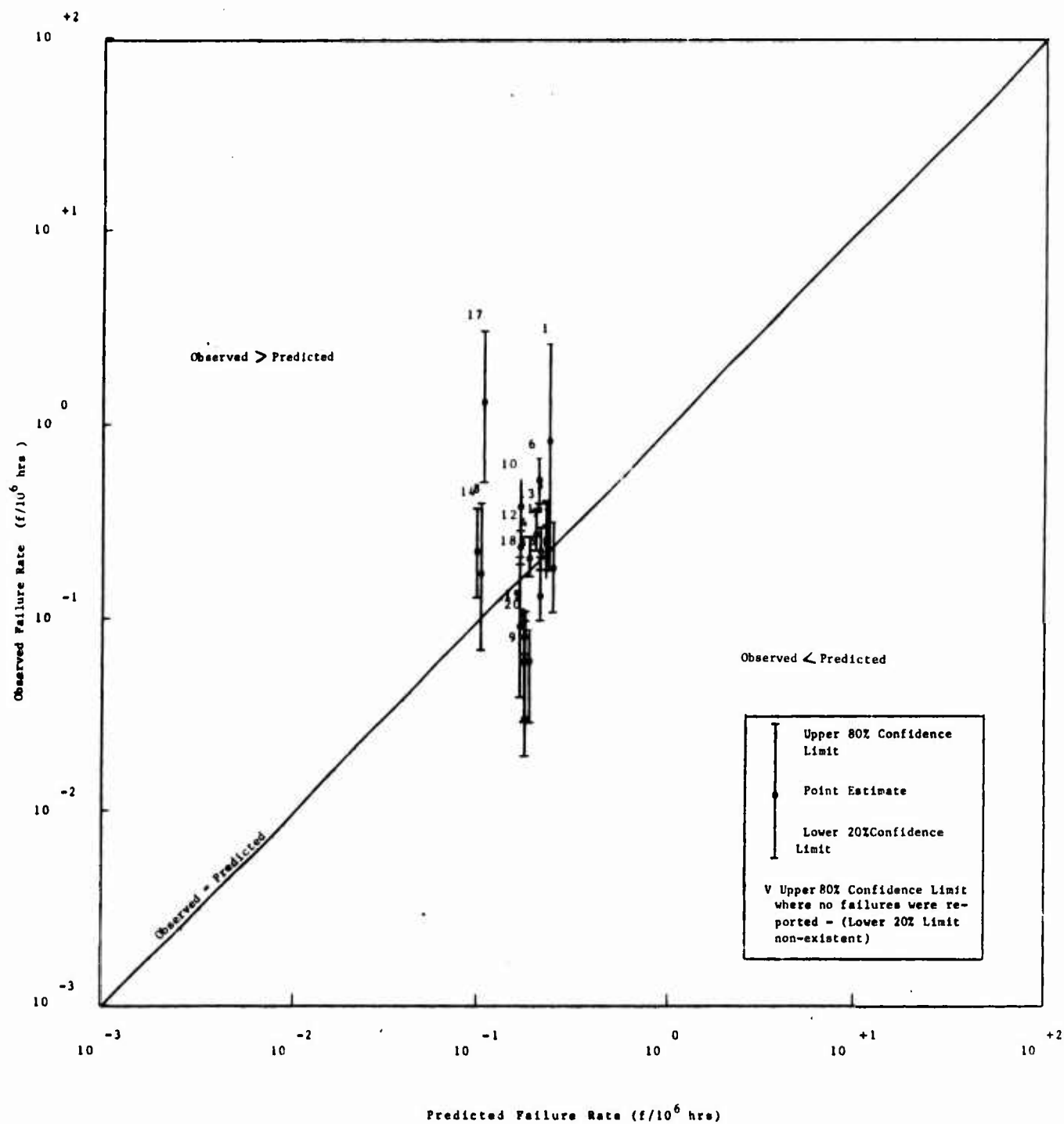


Figure 5: Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1 Predicted Failure Rates from Commercial Equipment, Part I (Observations 1-20)

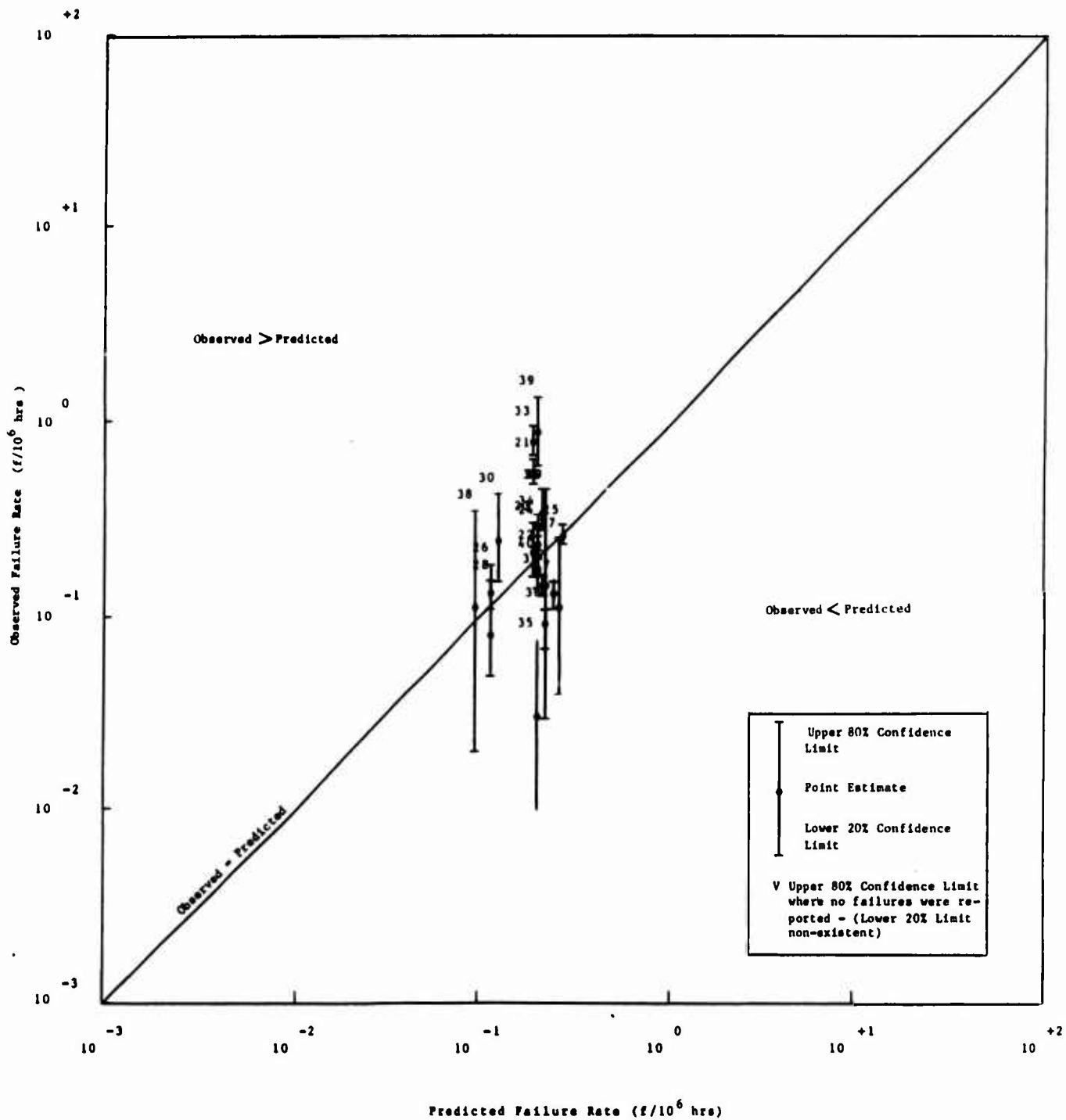


Figure 6: Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1 Predicted Failure Rates from Commercial Equipment, Part II (Observations 21-40)

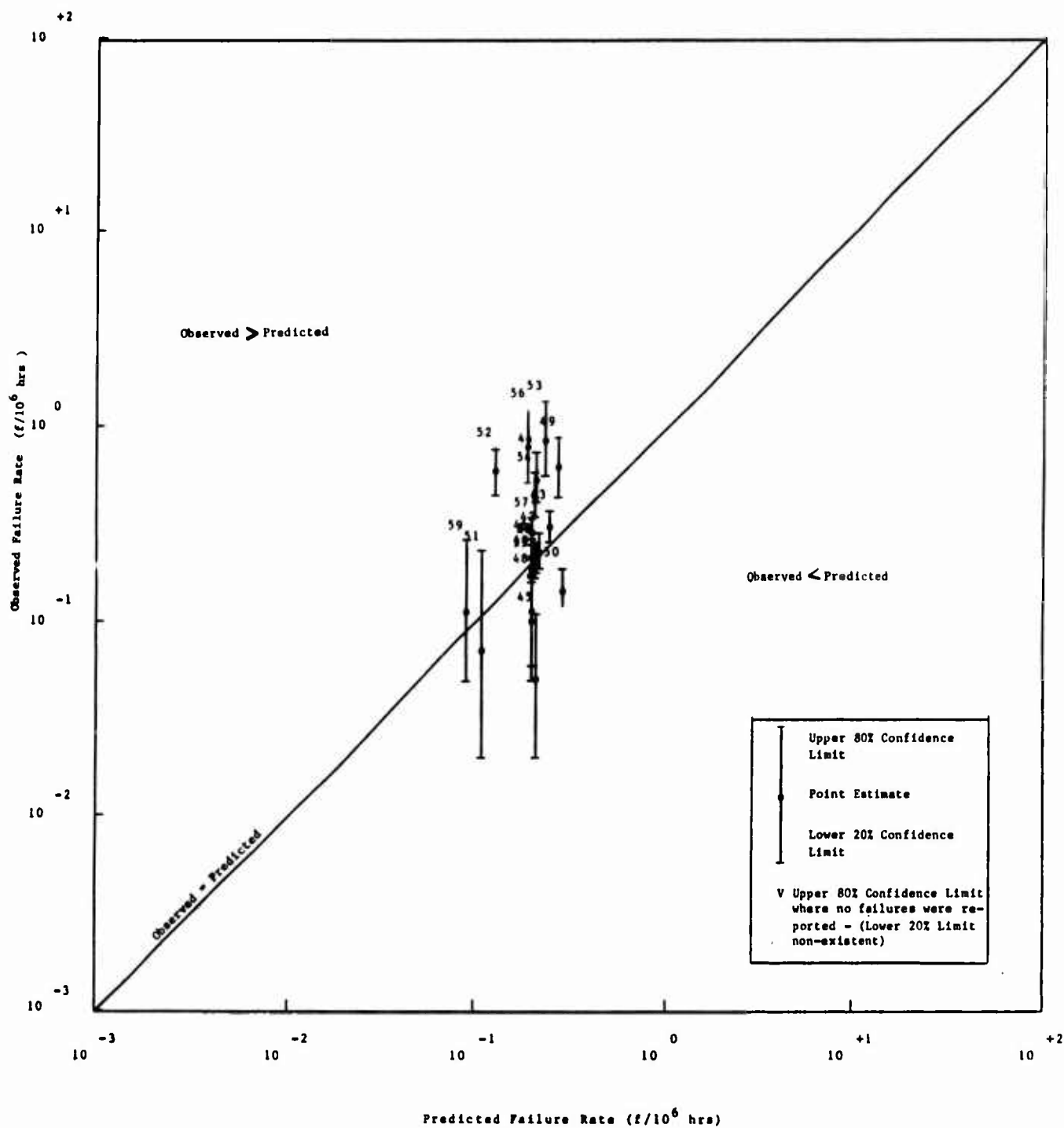


Figure 7: Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1
Predicted Failure Rates from Commercial Equipment, Part III
(Observations 41-60)

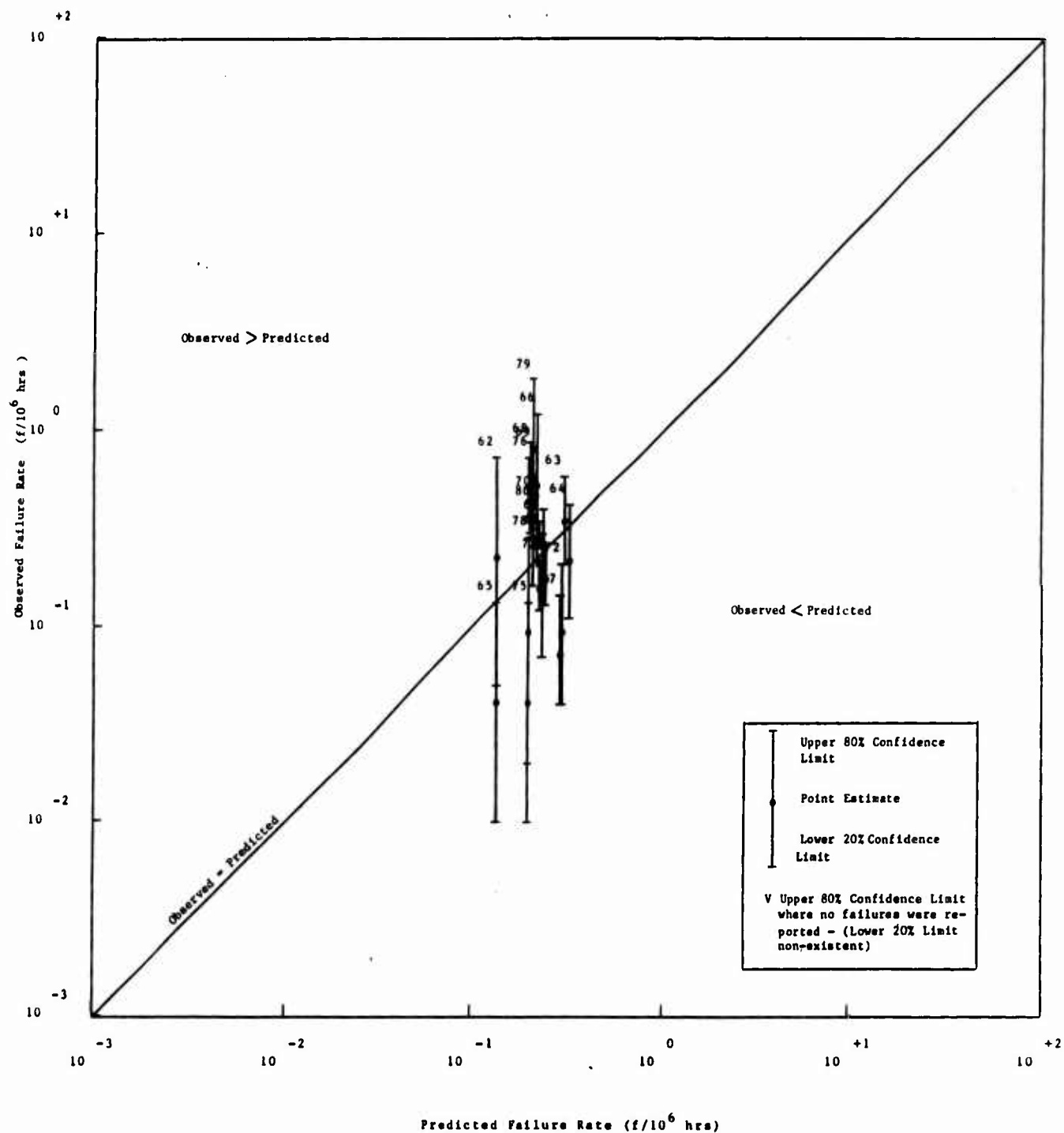


Figure 8: Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1
Predicted Failure Rates from Commercial Equipment, Part IV
(Observations 61-80)

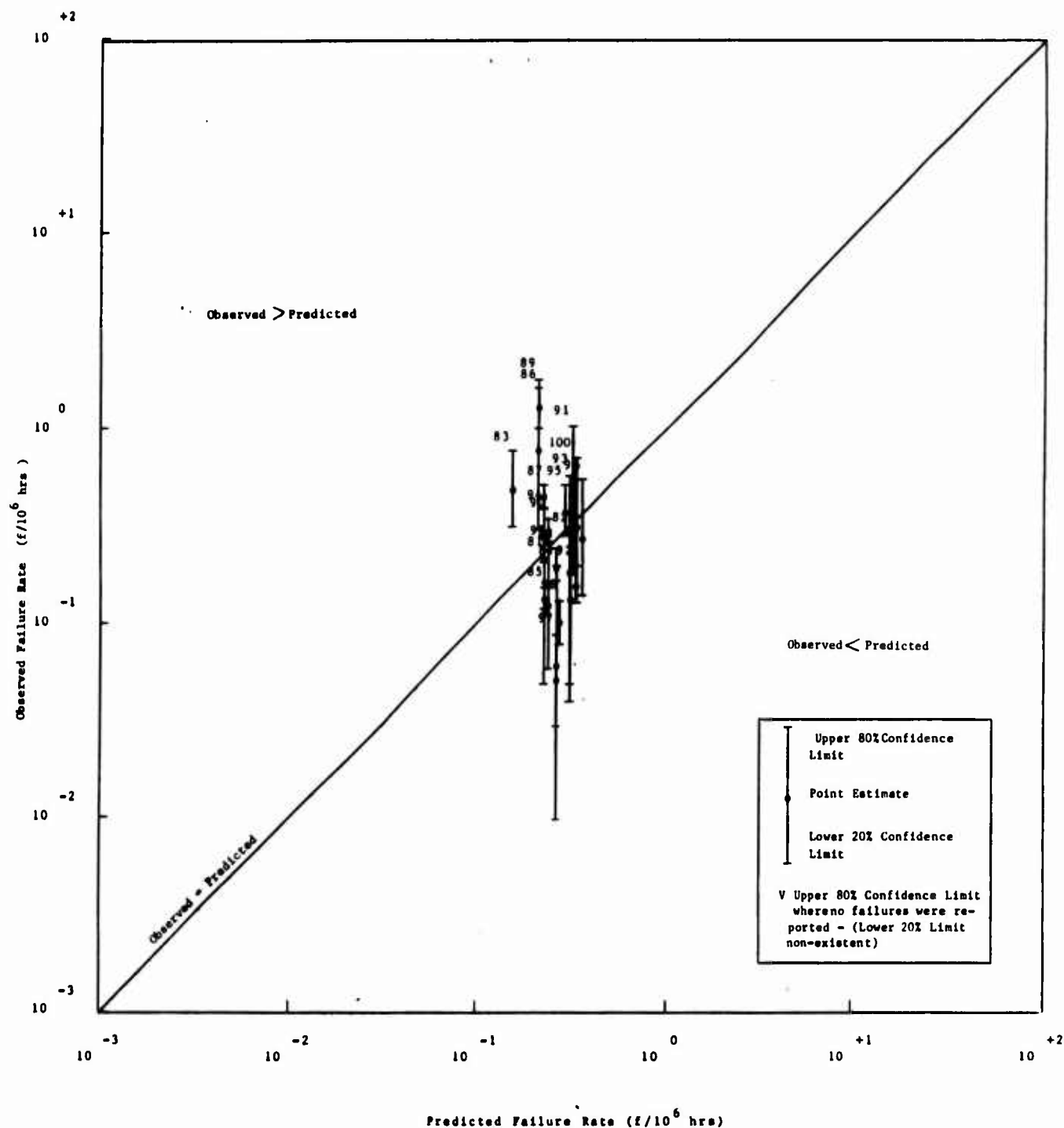


Figure 9: Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1
Predicted Failure Rates from Commercial Equipment, Part V
(Observations 81-100)

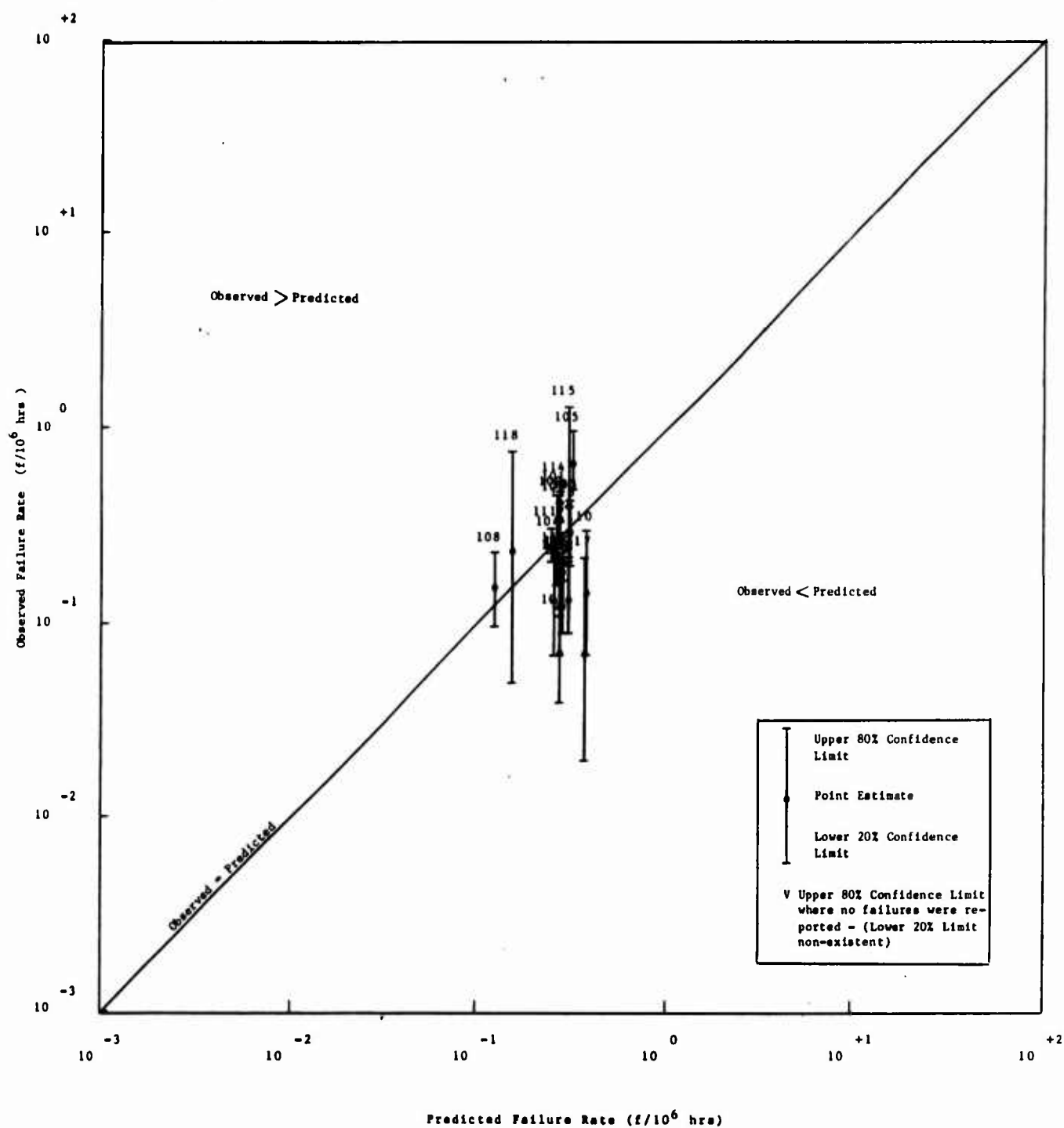


Figure 10: Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1 Predicted Failure Rates from Commercial Equipment, Part VI (Observations 101-120)

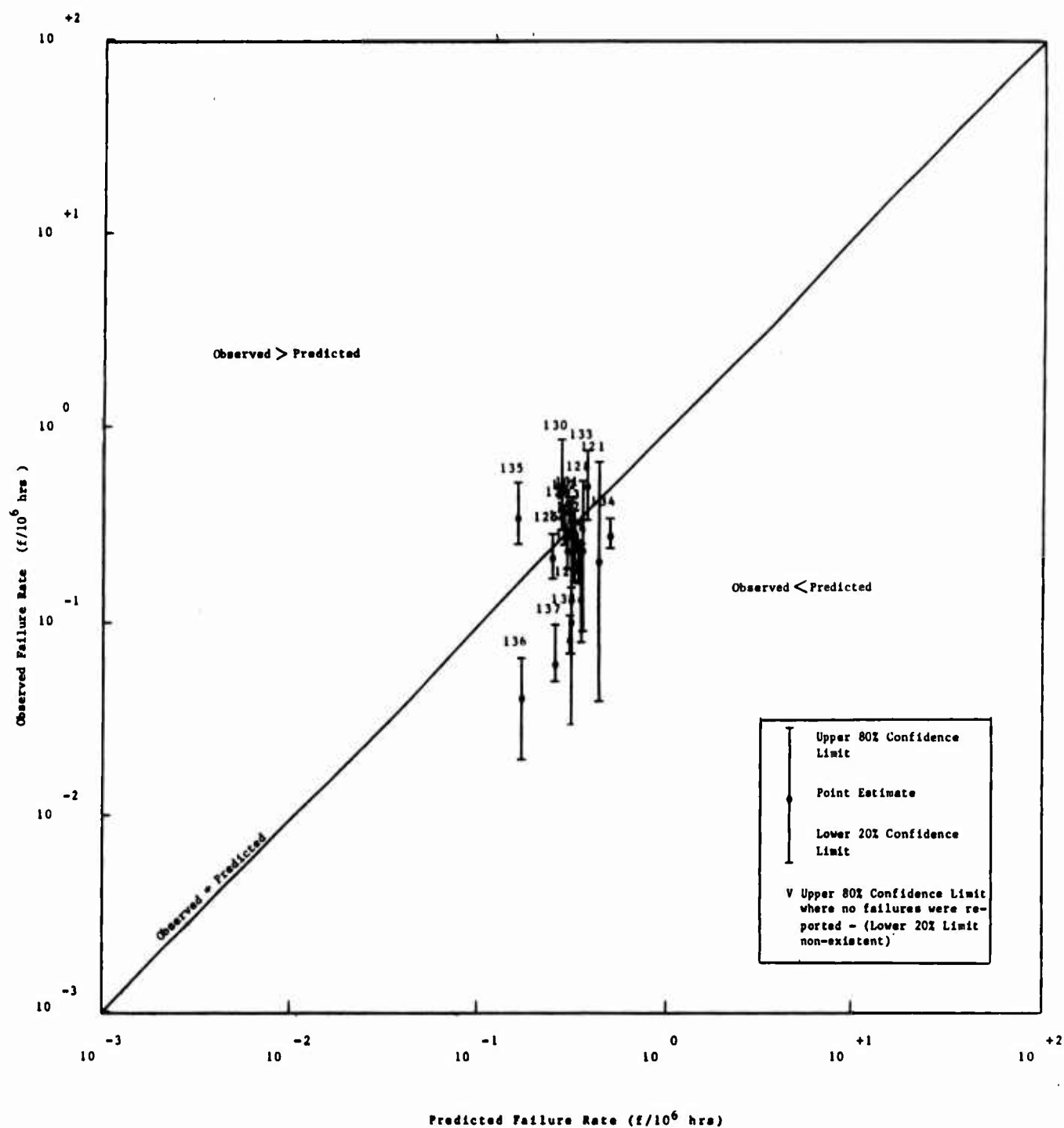


Figure 11: Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1
Predicted Failure Rates from Commercial Equipment, Part VII
(Observations 121-140)

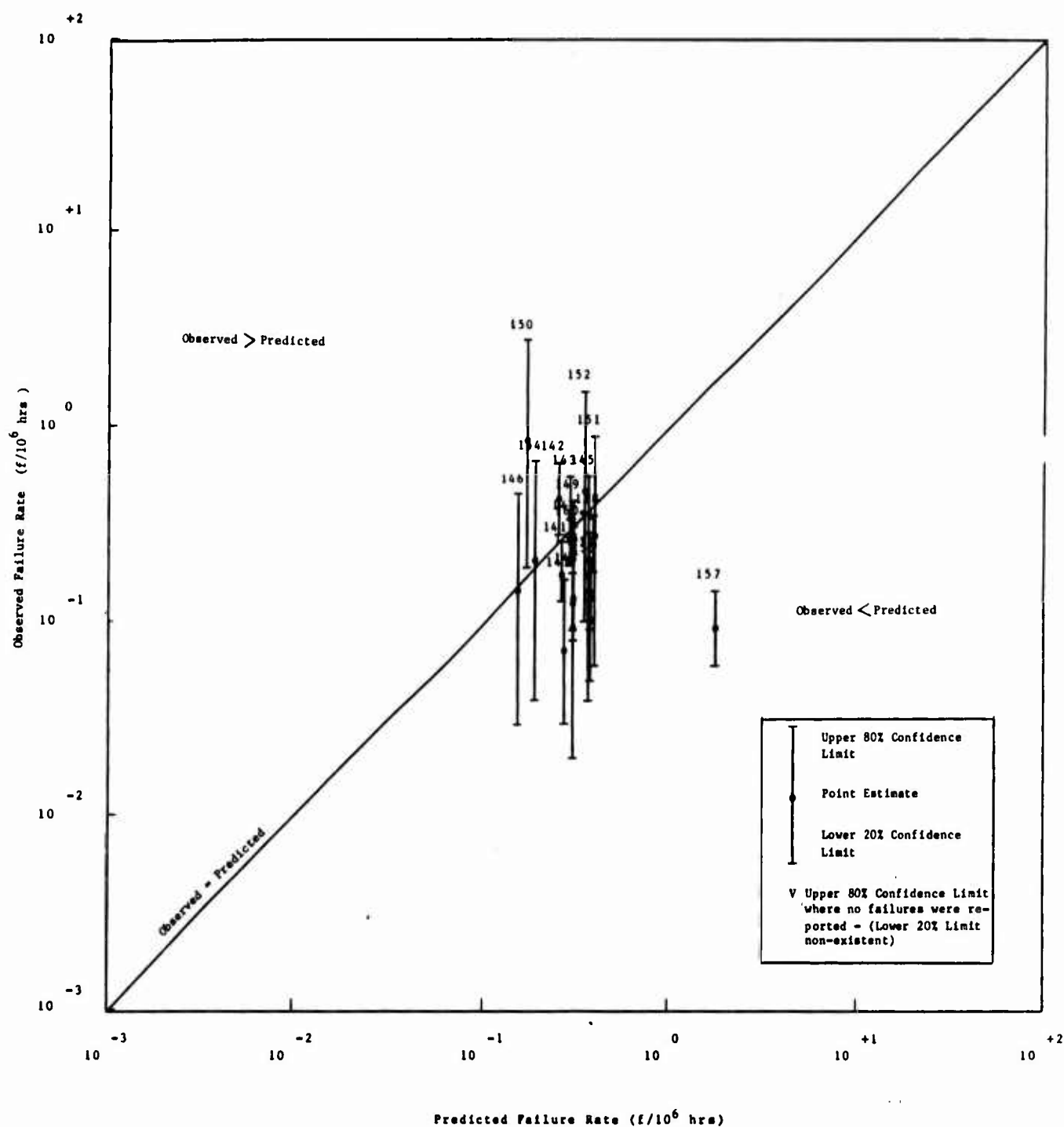


Figure 12: Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1
Predicted Failure Rates from Commercial Equipment, Part VIII
(Observations 141-160)

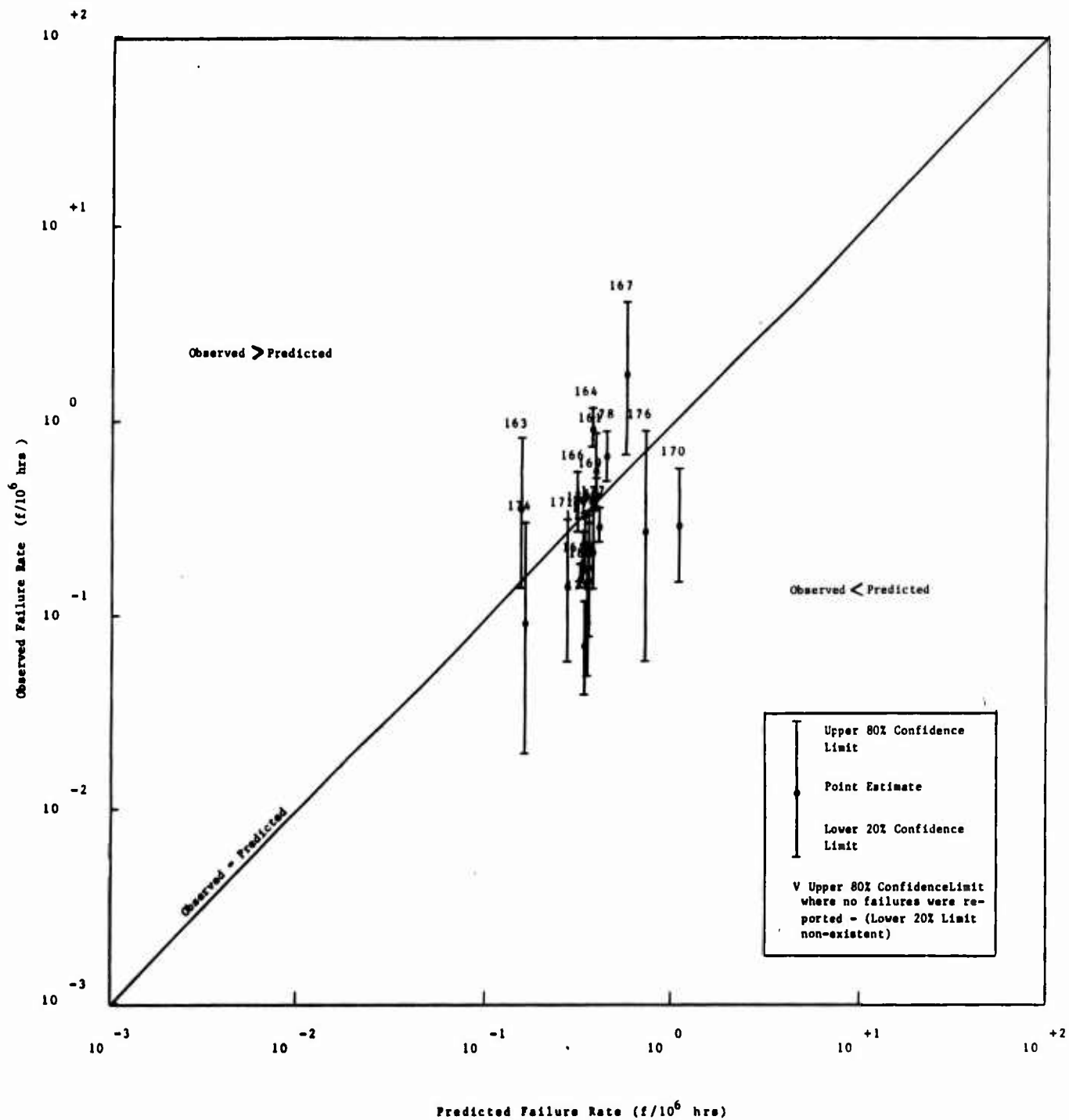


Figure 13: Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1 Predicted Failure Rates from Commercial Equipment, Part IX (Observations 161-180)

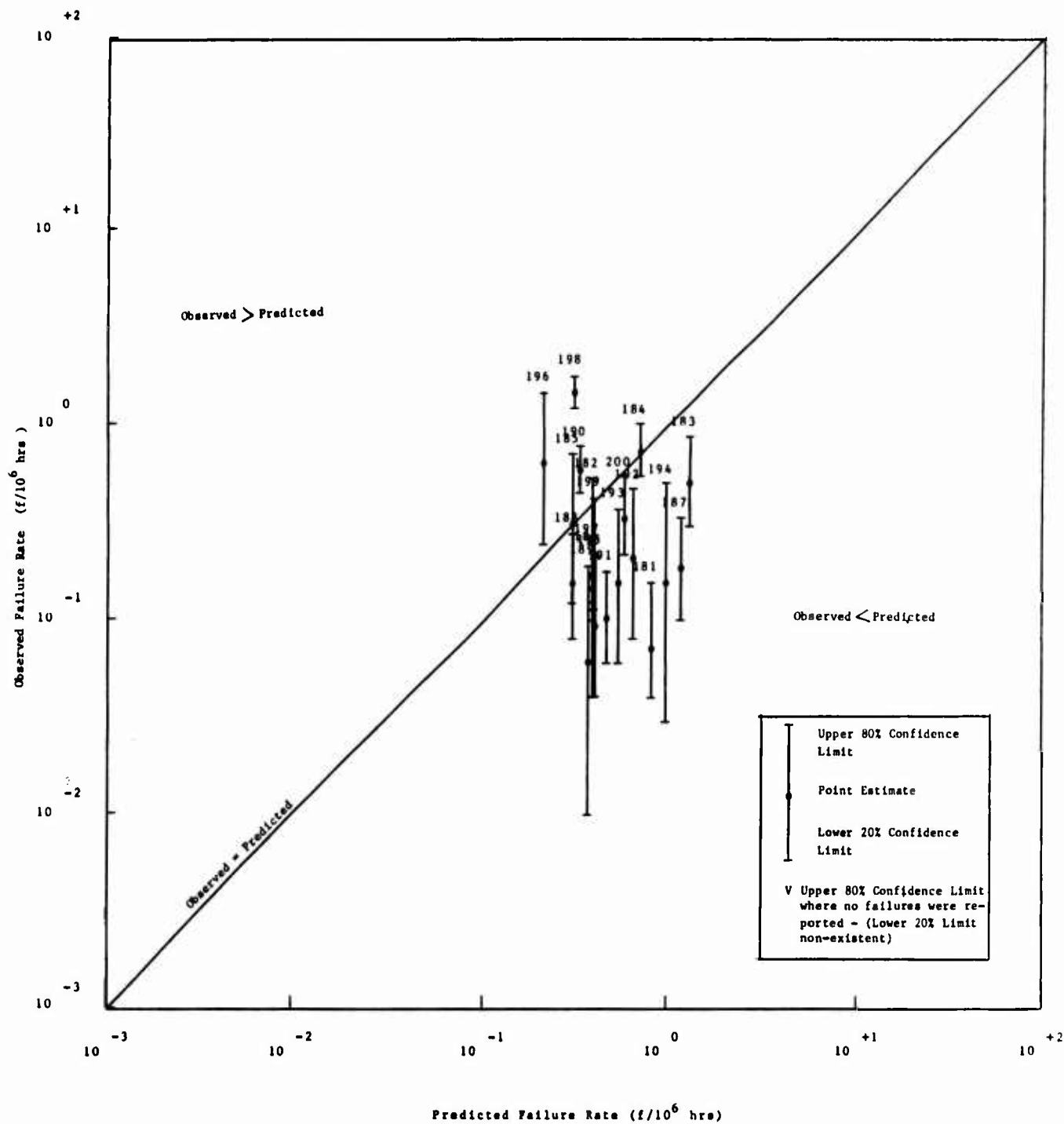


Figure 14: Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1 Predicted Failure Rates from Commercial Equipment, Part I (Observations 181-200)

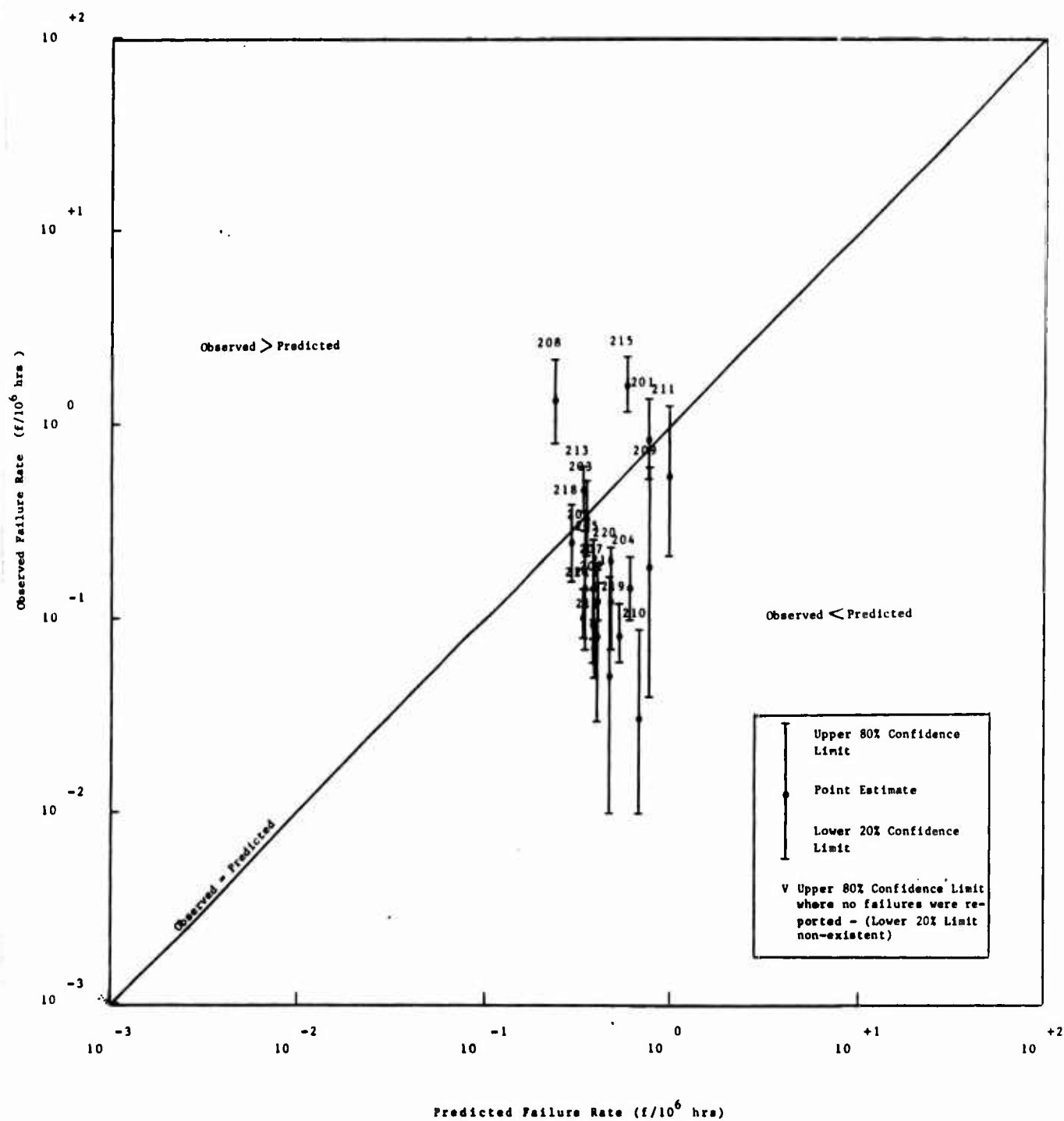


Figure 15: Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1 Predicted Failure Rates from Commercial Equipment, Part XI (Observations 201-220)

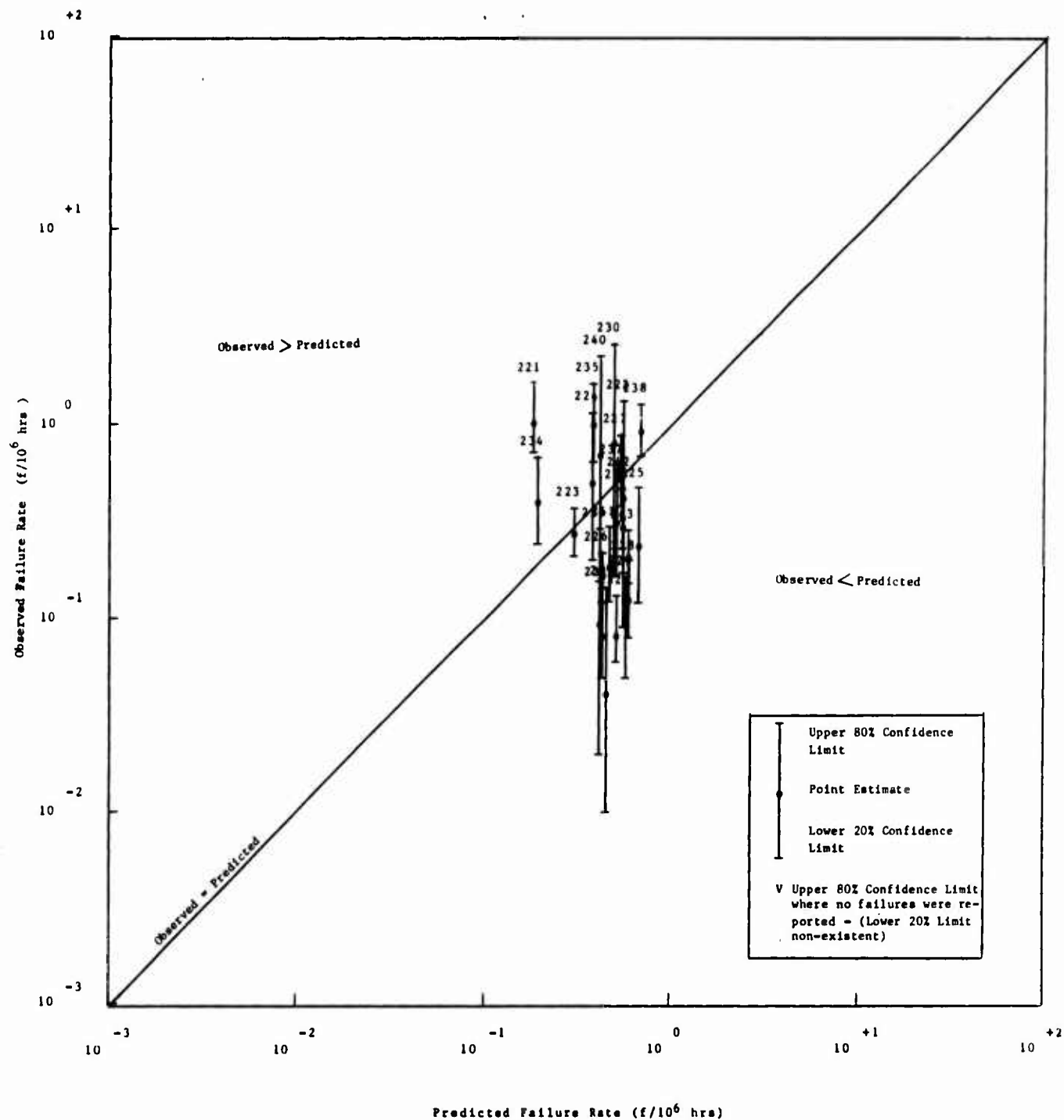


Figure 16: Digital Microcircuit Observed and MIL-HDBK-217C, Notice 1 Predicted Failure Rates from Commercial Equipment, Part XII (Observations 221-243)

SUMMARIZED GENERIC FAILURE RATES -
RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA

The data summarized within Tables 8 through 15 reflect failure rates for devices which have undergone in-house equipment-level testing, primarily under the guidelines established by MIL-STD-781B. As with the field data, a structured hierarchy has been established to permit both general and detailed evaluation of the operational and device characteristics which influence the results at this level of testing.

Specifically, Table 8 has been derived from Tables 10 through 15 to illustrate microcircuit failure rates based upon the test conditions defined by the various levels of MIL-STD-781B as an inherent function of operation logic type and screening quality levels. In the same fashion, Table 9 is also condensed from Tables 10 through 15, and groups its failure rate listings by gate complexities, as a function of both package type and MIL-STD-781B test levels. Careful analysis of Tables 8 and 9 will help to reveal the relationships between specific degrees of environmental stresses (temperature cycling, random and sinusoidal vibration, power cycling) and component failure rate for the generic class of tested devices and associated device characteristics.

Tables 10 through 15 represent a more detailed presentation of the reliability performance of digital SSI/MSI microcircuits. These tables, which are categorized by operational type, gate complexity, junction temperature, and screen class level, allow a closer examination into the failure rates of devices which are subjected into a unique set of MIL-STD-781B test conditions. The specifics of these test conditions are briefly outlined in the following table:

SUMMARY OF MIL-STD-781B TEST LEVELS

Test Level	Temperature °C	Temperature Cycling	Vibration	Equipment Power Cycling
A	25 \pm 5	None	Yes	Yes
A-1	25 \pm 5	None	None	None
B	40 \pm 5	None	Yes	Yes
C	50 \pm 5 - 0	None	Yes	Yes
D	65 \pm 5	None	Yes	Yes
E	-54 to +55	Yes	Yes	Yes
F	-54 to +71	Yes	Yes	Yes
G	-54 to +95	Yes	Yes	Yes
H	-65 to +71	Yes	Yes	Yes
J	-54 to +125	Yes	Yes	Yes
TCVPC*	As Defined	Yes	Yes	Yes

*Defined as Temperature Cycling, Vibration and Power Cycling Test, this category does not signify a defined MIL-STD-781B test level.

Of the data presented in this publication, test level A-1 will typically apply to equipments where the intended environment is Ground, Fixed (as defined by MIL-HDBK-217C), while levels E and F are generally associated with Airborne, Inhabited (Fighter and Transport) and Airborne, Uninhabited (Fighter and Transport) environments, respectively. The frequency spectrum and vibration amplitudes, as well as temperature and power cycling durations, are established by guidelines within each level of test. The incorporation of MI-STD-781C has pre-empted the use of these defined categories as such, allowing a more customized set of testing guidelines, and additional emphasis has been placed on the application of random vibrational test patterns to more closely reflect the vibration expected in field operation.

The results found within this subsection should prove useful as a relative comparison of anticipated digital microcircuit fallout rates of different logic types for those who are performing equipment-level tests such as Product Acceptable Testing (P.A.T.) or Reliability Acceptable Testing (R.A.T.). It should be noted, however, that these types of tests are intended to approximate the expected environmental extremes which might be encountered in the field and, hence, comparisons made between Reliability Demonstration/Equipment Checkout Data and actual field usage data should not be expected to yield a high degree of correlation.

TABLE 8: SUMMARIZED GENERIC FAILURE RATES
RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
(BY MIL-STD-781B TEST LEVEL)

TEST LEVEL	OPERATIONAL TYPE	SCREEN CLASS	PART HOURS (10 ⁶)	QUANTITY OF FAILURES		FAILURE RATES (F/10 ⁶ HOURS)		
						20% C.L.	POINT ESTIMATE	80% C.L.
A-1	COMBINED PMOS	COMBINED	703.197	3		0.0022	0.0043	0.0078
		COMBINED	0.095	0		-	-	-
		B-2	0.095	0		-	-	-
	DTL	COMBINED	2.280	0		-	-	0.71
		B-1	2.243	0		-	-	0.72
		B-2	0.037	0		-	-	-
	ECL	COMBINED	0.196	0		-	-	-
		B-1	0.032	0		-	-	-
		N	0.164	0		-	-	-
	HTTL	COMBINED	64.444	0		-	-	0.025
		B-1	64.005	0		-	-	0.025
		B-2	0.384	0		-	-	-
	LTTL	N	0.055	0		-	-	-
		COMBINED	1.872	0		-	-	0.86
		JB	0.013	0		-	-	-
	STTL	B-1	0.093	0		-	-	-
		B-2	1.766	0		-	-	0.91
		COMBINED	167.428	0		-	-	0.0096
	SUHL	B-1	167.428	0		-	-	0.0096
		COMBINED	2.675	1		0.083	0.37	1.1
		B-1	0.006	0		-	-	-
	TTL	B-2	2.669	1		0.084	0.37	1.1
		COMBINED	464.207	2		0.0018	0.0043	0.0092
		JB	0.356	0		-	-	-
D	COMBINED DTL	B-1	347.627	2		0.0024	0.0058	0.012
		B-2	62.219	0		-	-	0.026
		C-1	13.409	0		-	-	0.12
		N	40.596	0		-	-	0.040
E	COMBINED	COMBINED	0.683	0		-	-	2.4
		COMBINED	0.683	0		-	-	2.4
		C-1	0.683	0		-	-	2.4
		COMBINED	44.877	274		5.8	6.1	6.4

TABLE 8: SUMMARIZED GENERIC FAILURE RATES
RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
(BY MIL-STD-781B TEST LEVEL) (CONTINUED)

TEST LEVEL	OPERATIONAL TYPE	SCREEN CLASS	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
					20% C.L.	POINT ESTIMATE	80% C.L.
E (cont'd)	CMOS	COMBINED	22.183	49	1.9	2.2	2.5
		B-1/JB	18.777	32	1.4	1.7	2.0
		B-1	3.406	17	4.0	5.0	6.3
	PMOS	COMBINED	0.358	1	0.62	2.8	8.4
		B-2 to N	0.358	1	0.62	2.8	8.4
		COMBINED	0.460	0	-	-	-
	DTL	B-1	0.037	0	-	-	-
		B-2 to N	0.423	0	-	-	-
		COMBINED	0.034	0	-	-	-
	ECL	B-1	0.031	0	-	-	-
		B-2 to N	0.003	0	-	-	-
		COMBINED	0.510	2	1.6	3.9	8.4
	HTTL	JB	0.010	0	-	-	-
		B-1	0.281	0	-	-	-
		B-2 to N	0.219	2	3.8	9.1	20.
	LTTL	COMBINED	1.039	1	0.21	0.96	2.9
		JB	0.273	0	-	-	-
		B 1	0.758	1	0.29	1.3	4.0
	STTL	B-2 to N	0.008	0	-	-	-
		COMBINED	2.049	1	0.11	0.49	1.5
		B-1/JB	1.392	1	0.16	0.72	2.2
	SUHL	B-1	0.657	0	-	-	-
		COMBINED	2.667	3	0.58	1.1	2.1
		B-1/JB	1.047	3	1.5	2.9	5.3
	TTL	B-1	1.620	0	-	-	-
		COMBINED	15.577	217	13.	14.	15.
		JB	0.691	0	-	-	-
	B-1/JB	B-1/JB	1.766	13	5.6	7.4	9.6
		B-1	4.974	0	-	-	-
		B-2	0.777	89	104.	115.	126.
	B-2 to N	B-2 to N	6.733	115	15.7	17.1	18.6

TABLE 8: SUMMARIZED GENERIC FAILURE RATES
RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
(BY MIL-STD-781B TEST LEVEL) (CONTINUED)

TEST LEVEL	OPERATIONAL TYPE	SCREEN CLASS	PART HOURS (10 ⁶)	QUANTITY C ^F FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
					20% C.L.	POINT ESTIMATE	80% C.L.
E (cont'd) F	TTL (cont'd) COMBINED DTL	N	0.636	0	-	-	2.5
		COMBINED	83.073	29	0.29	0.35	0.42
	HTTL	COMBINED	5.850	0	-	-	0.28
		JB	0.036	0	-	-	-
		B-1	5.796	0	-	-	0.28
		O-1	0.018	0	-	-	-
		COMBINED	1.639	2	0.50	1.2	2.6
	LTTL	JB	0.219	0	-	-	-
		B-1	1.154	2	0.71	1.7	3.7
		JB and B-2	0.072	0	-	-	-
		B-2	0.003	0	-	-	-
		C-1	0.126	0	-	-	-
	STTL	B-2 to N	0.058	0	-	-	-
		N/R	0.007	0	-	-	-
		COMBINED	1.533	1	0.15	0.65	2.0
		JB	0.009	0	-	-	-
		B-1	1.133	0	-	-	1.4
	LSTTL	JB and B-2	0.233	0	-	-	-
		B-2 to N	0.158	1	-	-	-
		COMBINED	38.685	0	-	-	0.042
		B-1	38.662	0	-	-	0.042
		JB and B-2	0.014	0	-	-	-
	SUHL	B-2	0.002	0	-	-	-
		N/R	0.007	0	-	-	-
		COMBINED	0.014	0	-	-	-
		JB and B-2	0.014	0	-	-	-
		COMBINED	0.325	0	-	-	-
	TTL	B-1	0.089	0	-	-	-
		JB and B-2	0.236	0	-	-	-
		COMBINED	35.027	26	0.62	0.74	0.89
		JB	7.097	4	0.32	0.56	0.95
		B-1/JB	0.482	2	1.7	4.1	8.9

TABLE 8: SUMMARIZED GENERIC FAILURE RATES
RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
(BY MIL-STD-781B TEST LEVEL) (CONT'D)

TEST LEVEL	OPERATIONAL TYPE	SCREEN CLASS	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
					20% C.L.	POINT ESTIMATE	80% C.L.
F (cont'd)	TTL (cont'd)	B-1	19.327	16	0.65	0.83	1.1
		JB and B-2	2.254	2	0.37	0.89	1.9
		C-1	0.696	1	0.32	1.4	4.3
		B-2 to N	1.027	1	0.22	0.97	2.9
		N	2.508	0	-	-	0.64
		N/R	1.636	0	-	-	0.98
		COMBINED	3.221	0	-	-	0.50
		COMBINED	0.018	0	-	-	-
		C-1	0.018	0	-	-	-
		COMBINED	0.213	0	-	-	-
H	COMBINED	B-1	0.079	0	-	-	-
		C-1	0.134	0	-	-	-
		COMBINED	2.012	0	-	-	0.80
		B-1	2.012	0	-	-	0.80
		COMBINED	0.978	0	-	-	1.6
		B-1	0.450	0	-	-	-
		C-1	0.528	0	-	-	-
		COMBINED	0.575	0	-	-	3.0
		COMBINED	0.003	0	-	-	2.8
		B-1	0.003	0	-	-	-
TCVPC	COMBINED	COMBINED	0.004	0	-	-	-
		B-1	0.004	0	-	-	-
		COMBINED	0.189	0	-	-	-
		B-1	0.189	0	-	-	-
		COMBINED	0.114	0	-	-	-
		B-1	0.114	0	-	-	-
		COMBINED	0.265	0	-	-	-
		B-1	0.265	0	-	-	-
		COMBINED					
		B-1					

TABLE 9: SUMMARIZED GENERIC FAILURE RATES
RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
(BY COMPLEXITY)

COMPLEXITY (GATES)	PACKAGE TYPE	TEST LEVEL	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
					20% C.L.	POINT ESTIMATE	80% C.L.
1-10	COMBINED HDIP	COMBINED	550.816	150	0.25	0.27	0.29
		COMBINED	129.887	138	0.99	1.1	1.1
		A-1	93.431	0	-	-	0.017
		D	0.683	0	-	-	2.4
		E	20.988	124	5.5	5.9	6.4
	HFPK	F	14.575	14	0.74	0.96	1.2
		TCVPC	0.210	0	-	-	-
		COMBINED	420.865	12	0.021	0.029	0.038
		A-1	364.750	3	0.0042	0.0082	0.015
		E	1.631	0	-	-	0.99
11-25	CAN	F	51.655	9	0.12	0.17	0.24
		H	2.829	0	-	-	0.57
		COMBINED	0.034	0	-	-	-
		E	0.031	0	-	-	-
		TCVPC	0.003	0	-	-	-
	COMBINED HDIP	COMBINED	206.907	83	0.36	0.40	0.44
		COMBINED	65.063	81	1.1	1.2	1.4
		A-1	47.480	0	-	-	0.034
		E	9.192	76	7.5	8.3	9.2
		F	8.243	5	0.37	0.61	0.96
26-50	HFPK	H	0.004	0	-	-	-
		TCVPC	0.144	0	-	-	-
		COMBINED	141.844	2	0.0058	0.014	0.030
		A-1	137.634	0	-	-	0.012
		E	0.116	2	-	-	-
	COMBINED HDIP	F	4.040	0	-	-	0.40
		H	0.054	0	-	-	-
		COMBINED	63.223	5	0.049	0.079	0.13
		COMBINED	31.310	5	0.099	0.16	0.25
		A-1	26.020	0	-	-	0.062
		E	2.813	5	1.1	1.8	2.8
		F	2.324	0	-	-	0.69

TABLE 9: SUMMARIZED GENERIC FAILURE RATES
RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
(BY COMPLEXITY) (CONTINUED)

COMPLEXITY (GATES)	PACKAGE TYPE	TEST LEVEL	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)			
					20% C.L.	POINT ESTIMATE	80% C.L.	
26-50 (cont'd)	HDIP (cont'd) HFK	TCVPC	0.153	0	-	-	-	-
		COMBINED	31.913	0	-	-	0.050	-
		A-1	30.374	0	-	-	0.053	-
		E	0.179	0	-	-	-	-
		F	1.141	0	-	-	1.4	-
	COMBINED HDIP	H	0.219	0	-	-	-	-
		COMBINED	14.215	65	4.1	4.6	5.1	-
		COMBINED	12.877	65	4.5	5.0	5.6	-
		A-1	2.936	0	-	-	0.55	-
		E	9.481	64	6.0	6.8	7.6	-
51-75	PDIP	F	0.395	1	0.56	2.5	7.6	-
		TCVPC	0.065	0	-	-	-	-
		COMBINED	0.002	0	-	-	-	-
		E	0.002	0	-	-	-	-
		COMBINED	1.336	0	-	-	1.2	-
	HFK	A-1	0.536	0	-	-	3.0	-
		E	0.044	0	-	-	-	-
		F	0.641	0	-	-	2.5	-
		H	0.115	0	-	-	-	-
		COMBINED	0.459	3	3.3	6.5	12.	-
76-100	COMBINED HDIP	COMBINED	0.459	3	3.3	6.5	12.	-
		E	0.400	3	3.8	7.5	14.	-
		F	0.059	0	-	-	-	-

TABLE 10: SUMMARIZED GENERIC FAILURE RATES
RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
MIL-STD-781B, LEVEL A-1

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
PMOS	B-2	HDIP	11-25	26-50	0.095	0	-	-	-
	B-1	HDIP	1-10	26-50	0.128	0	-	-	-
	B-1	HFPK	1-10	26-50	1.983	0	-	-	0.81
ECL	B-1	HFPK	11-25	26-50	0.132	0	-	-	-
	B-2	HFPK	1-10	26-50	0.021	0	-	-	-
	B-2	HFPK	1-10	51-75	0.016	0	-	-	-
	B-1	HDIP	11-25	76-100	0.016	0	-	-	-
	B-1	HFPK	1-10	51-75	0.016	0	-	-	-
HTTL	N	HDIP	1-10	26-50	0.164	0	-	-	-
	B-1	HFPK	1-10	26-50	57.735	0	-	-	0.028
	B-1	HFPK	11-25	26-50	6.270	0	-	-	0.26
	B-2	HDIP	1-10	26-50	0.075	0	-	-	-
	B-2	HDIP	11-25	26-50	0.309	0	-	-	-
LTTL	N	HDIP	11-25	51-75	0.055	0	-	-	-
	JB	HDIP	1-10	26-50	0.012	0	-	-	-
	JB	HDIP	11-25	26-50	0.001	0	-	-	-
	B-1	HDIP	11-25	26-50	0.007	0	-	-	-
	B-1	HDIP	26-50	26-50	0.086	0	-	-	-
STTL	B-2	HDIP	1-10	26-50	0.023	0	-	-	-
	B-2	HFPK	1-10	26-50	1.363	0	-	-	1.2
	B-2	HFPK	11-25	26-50	0.174	0	-	-	-
	B-2	HFPK	26-50	26-50	0.174	0	-	-	-
	B-2	HFPK	51-75	26-50	0.032	0	-	-	-
SUHL	B-1	HDIP	1-10	26-50	0.842	0	-	-	1.9
	B-1	HDIP	11-25	26-50	0.663	0	-	-	2.4
	B-1	HDIP	51-75	26-50	0.019	0	-	-	-
	B-1	HFPK	1-10	26-50	118.850	0	-	-	0.014
	B-1	HFPK	11-25	26-50	46.801	0	-	-	0.034
	B-1	HFPK	11-25	51-75	0.253	0	-	-	-
	B-1	HFPK	11-25	26-50	0.006	0	-	-	-
	B-2	HFPK	1-10	26-50	2.059	1	0.11	0.49	1.5
	B-2	HFPK	11-25	26-50	0.393	0	-	-	-

TABLE 10: SUMMARIZED GENERIC FAILURE RATES
RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
MIL-STD-781B, LEVEL A-1 (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
SUHL (cont'd) TTL	B-2	HFPK	11-25	51-75	0.217	0	-	-	-
	JB	HDIP	1-10	26-50	0.193	0	-	-	-
	JB	HDIP	11-25	26-50	0.082	0	-	-	-
	JB	HDIP	26-50	26-50	0.045	0	-	-	-
	JB	HDIP	51-75	26-50	0.036	0	-	-	-
	B-1	HDIP	1-10	26-50	31.665	0	-	-	0.051
	B-1	HDIP	1-10	51-75	0.008	0	-	-	-
	B-1	HDIP	11-25	26-50	15.390	0	-	-	0.10
	B-1	HDIP	26-50	26-50	1.565	0	-	-	1.0
	B-1	HDIP	26-50	51-75	0.198	0	-	-	-
	B-1	HDIP	51-75	26-50	0.172	0	-	-	-
	B-1	HDIP	51-75	51-75	2.745	0	-	-	0.59
	B-1	HFPK	1-10	26-50	182.269	2	0.0045	0.011	0.023
	B-1	HFPK	11-25	26-50	74.896	0	-	-	0.021
	B-1	HFPK	11-25	51-75	8.191	0	-	-	0.20
	B-1	HFPK	26-50	51-75	21.735	0	-	-	0.074
	B-1	HFPK	26-50	76-100	8.384	0	-	-	0.19
	B-1	HFPK	51-75	51-75	0.409	0	-	-	-
	B-2	HDIP	1-10	26-50	40.438	0	-	-	0.040
	B-2	HDIP	11-25	26-50	0.049	0	-	-	-
	B-2	HDIP	26-50	26-50	0.002	0	-	-	-
	B-2	HDIP	26-50	51-75	18.145	0	-	-	0.089
	B-2	HDIP	26-50	76-100	2.670	0	-	-	0.60
	B-2	HFPK	1-10	26-50	0.438	0	-	-	-
	B-2	HFPK	11-25	26-50	0.174	0	-	-	-
	B-2	HFPK	11-25	51-75	0.127	0	-	-	-
	B-2	HFPK	26-50	51-75	0.081	0	-	-	-
	B-2	HFPK	51-75	76-100	0.095	0	-	-	-
	C-1	HDIP	1-10	51-75	3.871	0	-	-	0.42
	C-1	HDIP	1-10	76-100	3.251	0	-	-	0.50
	C-1	HDIP	11-25	51-75	0.898	0	-	-	1.8
	C-1	HDIP	11-25	76-100	2.246	0	-	-	0.72

TABLE 10: SUMMARIZED GENERIC FAILURE RATES
RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
MIL-STD-781B, LEVEL A-1 (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _J (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
TTL (cont'd)	C-1	HDIP	26-50	26-50	0.278	0	-	-	-
	C-1	HDIP	26-50	76-100	2.395	0	-	-	0.67
	C-1	HDIP	26-50	101-125	0.470	0	-	-	-
	N	HDIP	1-10	26-50	12.761	0	-	-	0.13
	N	HDIP	11-25	26-50	27.669	0	-	-	0.058
	N	HDIP	26-50	51-75	0.166	0	-	-	-

TABLE 11: SUMMARIZED GENERIC FAILURE RATES
RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
MIL-STD-781B, LEVEL D

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _J (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
DTL	C-1	HDIP	1-10	51-75	0.063	0	-	-	-
	C-1	HDIP	1-10	76-100	0.620	0	-	-	2.6

TABLE 12: SUMMARIZED GENERIC FAILURE RATES
RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
MIL-STD-781, LEVEL E

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
CMOS	B-1/JB	HDIP	1-10	51-75	8.638	6	0.45	0.69	1.1
	B-1/JB	HDIP	11-25	51-75	2.761	3	0.56	1.1	2.0
	B-1/JB	HDIP	51-75	76-100	7.074	20	2.3	2.8	3.5
	B-1/JB	HDIP	76-100	76-100	0.304	3	5.0	9.9	18.3
	B-1	HDIP	1-10	51-75	0.899	1	0.25	1.1	3.3
	B-1	HDIP	11-25	51-75	0.642	2	1.3	3.1	6.7
	B-1	HDIP	26-50	51-75	0.091	0	-	-	-
	B-1	HDIP	51-75	51-75	1.277	11	6.4	8.6	11.6
	B-1	HDIP	51-75	76-100	0.437	3	3.5	6.9	12.7
	B-1	HDIP	76-100	51-75	0.058	0	-	-	-
	B-1	HFPK	11-25	51-75	0.002	0	-	-	-
	B-2 to N	HDIP	11-25	51-75	0.358	1	0.62	2.8	8.4
	B-1	HDIP	1-10	51-75	0.037	0	-	-	-
	B-2 to N	HDIP	1-10	51-75	0.190	0	-	-	-
	B-2 to N	HFPK	1-10	51-75	0.216	0	-	-	-
PMOS	B-2 to N	HFPK	26-50	51-75	0.017	0	-	-	-
	B-1	CAN	1-10	51-75	0.031	0	-	-	-
	B-2 to N	HFPK	1-10	51-75	0.003	0	-	-	-
	JB	HDIP	1-10	51-75	0.010	0	-	-	-
HTTL	B-1	HDIP	1-10	51-75	0.129	0	-	-	-
	B-1	HDIP	1-10	76-100	0.059	0	-	-	-
	B-1	HDIP	11-25	51-75	0.021	0	-	-	-
	B-1	HDIP	11-25	76-100	0.072	0	-	-	-
LTTL	B-2 to N	HDIP	1-10	51-75	0.211	2	3.9	9.5	20.0
	B-2 to N	HDIP	11-25	51-75	0.008	0	-	-	-
	JB	HDIP	1-10	51-75	0.142	0	-	-	-
	JB	HDIP	11-25	51-75	0.002	0	-	-	-
	JB	HFPK	1-10	51-75	0.066	0	-	-	-
	JB	HFPK	26-50	76-100	0.063	0	-	-	-
	B-1	HDIP	1-10	51-75	0.331	0	-	-	-
	B-1	HDIP	11-25	51-75	0.046	0	-	-	-
	B-1	HDI	26-50	51-75	0.174	0	-	-	-

TABLE 12: SUMMARIZED GENERIC FAILURE RATES
RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
MIL-STD-781B, LEVEL E (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
LITL (cont'd)	B-1	HDIP	51-75	76-100	0.015	0	-	-	-
	B-1	HFPK	11-25	51-75	0.084	1	-	-	-
	B-1	HFPK	26-50	51-75	0.078	0	-	-	-
	B-1	HFPK	51-75	76-100	0.030	0	-	-	-
STTL	B-2	HDIP	26-50	76-100	0.008	0	-	-	-
	B-1/JB	HDIP	1-10	51-75	0.843	0	-	-	1.9
	B-1/JB	HDIP	11-25	51-75	0.549	1	0.41	1.8	5.5
	B-1	HDIP	11-25	51-75	0.311	0	-	-	-
SUHL	B-1	HDIP	26-50	51-75	0.345	0	-	-	-
	B-1	HDIP	51-75	76-100	0.001	0	-	-	-
	B-1/JB	HDIP	1-10	51-75	1.047	3	1.5	2.9	5.3
	B-1	HDIP	1-10	51-75	0.309	0	-	-	-
TTL	B-1	HDIP	11-25	51-75	1.145	0	-	-	1.4
	B-1	HDIP	26-50	51-75	0.166	0	-	-	-
	B-1	HDIP	1-10	51-75	0.355	0	-	-	-
	B-1	HDIP	11-25	51-75	0.169	0	-	-	-
	B-1	HDIP	26-50	76-100	0.061	0	-	-	-
	B-1	HDIP	51-75	76-100	0.002	0	-	-	-
	B-1	HFPK	1-10	51-75	0.079	0	-	-	-
	B-1	HFPK	11-25	51-75	0.004	0	-	-	-
	B-1	HFPK	26-50	76-100	0.021	0	-	-	-
	B-1/JB	HDIP	1-10	51-75	1.766	13	5.6	7.4	9.6
	B-1	HDIP	1-10	51-75	1.050	0	-	-	1.5
	B-1	HDIP	11-25	51-75	1.466	0	-	-	1.1
	B-1	HDIP	11-25	76-100	0.074	0	-	-	-
	B-1	HDIP	26-50	51-75	0.389	0	-	-	-
	B-1	HDIP	26-50	76-100	0.527	0	-	-	3.1
	B-1	HDIP	26-50	101-125	0.004	0	-	-	-
	B-1	HDIP	51-75	76-100	0.148	0	-	-	-
	B-1	HDIP	51-75	101-125	0.006	0	-	-	-
	B-1	HDIP	76-100	101-125	0.038	0	-	-	-
	B-1	PDIP	51-75	76-100	0.002	0	-	-	-

TABLE 12: SUMMARIZED GENERIC FAILURE RATES
RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
MIL-STD-781B, LEVEL E (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
TTL (cont'd)	B-1	HFPK	1-10	51-75	1.261	0	-	-	1.3
	B-1	HFPK	11-25	51-75	0.009	0	-	-	-
	B-2	HDIP	1-10	51-75	0.777	89	104.	115.	126.
	B-2 to N	HDIP	1-10	51-75	4.169	10	1.7	2.4	3.3
	B-2 to N	HDIP	11-25	51-75	1.402	48	30.	34.	39.
	B-2 to N	HDIP	11-25	76-100	0.166	21	103.	126.	155.
	B-2 to N	HDIP	26-50	51-75	0.490	5	6.3	10.	16.
	B-2 to N	HDIP	51-75	76-100	0.469	30	54.	64.	76.
	B-2 to N	HFPK	1-10	51-75	0.006	0	-	-	-
	B-2 to N	HFPK	11-25	51-75	0.017	1	-	-	-
	B-2 to N	HFPK	51-75	76-100	0.014	0	-	-	-
	N	HDIP	1-10	51-75	0.013	0	-	-	-
	N	HDIP	1-10	76-100	0.013	0	-	-	-
	N	HDIP	26-50	76-100	0.558	0	-	-	2.9
	N	HDIP	51-75	76-100	0.052	0	-	-	-

TABLE 13: SUMMARIZED GENERIC FAILURE RATES
RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
MIL-STD-781B, LEVEL F

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
DTL	JB	HFPK	1-10	76-100	0.036	0	-	-	-
	B-1	HDIP	1-10	76-100	0.009	0	-	-	-
	B-1	HDIP	11-25	76-100	0.138	0	-	-	-
	B-1	HFPK	1-10	51-75	3.954	0	-	-	0.41
	B-1	HFPK	1-10	76-100	0.037	0	-	-	-
	B-1	HFPK	11-25	51-75	1.658	0	-	-	0.97
	C-1	HFPK	1-10	51-75	0.007	0	-	-	-
	C-1	HFPK	1-10	76-100	0.009	0	-	-	-
	C-1	HFPK	1-10	101-125	0.002	0	-	-	-
	JB	HDIP	1-10	76-100	0.219	0	-	-	-
	B-1	HDIP	1-10	51-75	0.046	0	-	-	-
	B-1	HDIP	1-10	76-100	0.147	2	5.5	13.6	29.
	B-1	HDIP	11-25	76-100	0.228	0	-	-	-
	B-1	HFPK	1-10	51-75	0.151	0	-	-	-
	B-1	HFPK	1-10	76-100	0.449	0	-	-	-
HTTL	B-1	HFPK	11-25	76-100	0.133	0	-	-	-
	JB and B-2	HDIP	1-10	76-100	0.043	0	-	-	-
	JB and B-2	HDIP	11-25	76-100	0.029	0	-	-	-
	B-2	HFPK	1-10	76-100	0.001	0	-	-	-
	B-2	HFPK	11-25	76-100	0.002	0	-	-	-
	C-1	HFPK	1-10	51-75	0.004	0	-	-	-
	C-1	HFPK	1-10	76-100	0.122	0	-	-	-
	B-2 to N	HDIP	1-10	76-100	0.058	0	-	-	-
	N/R	HDIP	1-10	76-100	0.007	0	-	-	-
	JB	HDIP	1-10	76-100	0.003	0	-	-	-
	JB	HFPK	1-10	76-100	0.006	0	-	-	-
	B-1	HDIP	1-10	51-75	0.010	0	-	-	-
	B-1	HDIP	1-10	76-100	0.181	0	-	-	-
	B-1	HDIP	11-25	51-75	0.024	0	-	-	-
	B-1	HDIP	11-25	76-100	0.152	0	-	-	-
	B-1	HDIP	26-50	76-100	0.100	0	-	-	-
	B-1	HDIP	51-75	76-100	0.055	0	-	-	-
LTTL	JB	HFPK	1-10	76-100	0.036	0	-	-	-
	B-1	HDIP	1-10	76-100	0.009	0	-	-	-
	B-1	HDIP	11-25	76-100	0.138	0	-	-	-
	B-1	HFPK	1-10	51-75	3.954	0	-	-	0.41
	B-1	HFPK	1-10	76-100	0.037	0	-	-	-
	B-1	HFPK	11-25	51-75	1.658	0	-	-	0.97
	C-1	HFPK	1-10	51-75	0.007	0	-	-	-
	C-1	HFPK	1-10	76-100	0.009	0	-	-	-
	C-1	HFPK	1-10	101-125	0.002	0	-	-	-
	JB	HDIP	1-10	76-100	0.219	0	-	-	-
	B-1	HDIP	1-10	51-75	0.046	0	-	-	-
	B-1	HDIP	1-10	76-100	0.147	2	5.5	13.6	29.
	B-1	HDIP	11-25	76-100	0.228	0	-	-	-
	B-1	HFPK	1-10	51-75	0.151	0	-	-	-
	B-1	HFPK	1-10	76-100	0.449	0	-	-	-

TABLE 13: SUMMARIZED GENERIC FAILURE RATES
RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
MIL-STD-781B, LEVEL F (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _J (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
LTTL (cont'd)	B-1	HFPK	1-10	76-100	0.148	0	-	-	-
	B-1	HFPK	11-25	76-100	0.200	0	-	-	-
	B-1	HFPK	26-50	76-100	0.082	0	-	-	-
	B-1	HFPK	51-75	76-100	0.181	0	-	-	-
	JB and B-2	HDIP	11-25	76-100	0.101	0	-	-	-
	JB and B-2	HDIP	51-75	76-100	0.132	0	-	-	-
	B-2 to N	HDIP	11-25	51-75	0.078	0	-	-	-
	B-2 to N	HDIP	51-75	76-100	0.080	0	-	-	-
	B-1	HDIP	1-10	51-75	0.023	0	-	-	-
	B-1	HDIP	1-10	76-100	0.004	0	-	-	-
STTL	B-1	HDIP	11-25	76-100	0.024	0	-	-	-
	B-1	HFPK	1-10	51-75	38.611	0	-	-	0.042
	JB and B-2	HDIP	1-10	76-100	0.014	0	-	-	-
	B-2	HFPK	1-10	76-100	0.001	0	-	-	-
	B-2	HFPK	11-25	76-100	0.001	0	-	-	-
	N/R	HDIP	11-25	76-100	0.007	0	-	-	-
	JB and B-2	HDIP	11-25	76-100	0.014	0	-	-	-
	B-1	HFPK	1-10	76-100	0.014	0	-	-	-
	B-1	HFPK	11-25	76-100	0.075	0	-	-	-
	JB and B-2	HDIP	1-10	76-100	0.236	0	-	-	-
LSTTL SUNL	JB	HDIP	1-10	76-100	5.251	2	0.16	0.38	0.82
	JB	HDIP	11-25	76-100	1.434	2	0.57	1.4	3.0
	JB	HDIP	26-50	76-100	0.012	0	-	-	-
	JB	HFPK	1-10	76-100	0.007	0	-	-	-
	JB	HFPK	11-25	76-100	0.389	0	-	-	-
	JB	HFPK	26-50	76-100	0.004	0	-	-	-
	B-1/JB	HFPK	1-10	76-100	0.482	2	1.7	4.2	8.9
	B-1	HDIP	1-10	51-75	1.452	1	0.15	0.69	2.1
	B-1	HDIP	1-10	76-100	5.101	8	1.1	1.6	2.2
	B-1	HDIP	11-25	76-100	3.301	1	0.068	0.30	0.91
TTL	B-1	HDIP	11-25	101-125	0.026	0	-	-	-
	B-1	HDIP	26-50	76-100	1.734	0	-	-	0.93

TABLE 13: SUMMARIZED GENERIC FAILURE RATES
RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
MIL-STD-781B, LEVEL F (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
TTL (cont'd)	B-1	HDIP	26-50	101-125	0.024	0	-	-	-
	B-1	HDIP	51-75	76-100	0.053	0	-	-	-
	B-1	HDIP	51-75	101-125	0.066	0	-	-	-
	B-1	HDIP	76-100	76-100	0.059	0	-	-	-
	B-1	HFPK	1-10	51-75	0.123	0	-	-	-
	B-1	HFPK	1-10	76-100	5.098	6	0.77	1.2	1.8
	B-1	HFPK	1-10	126-150	0.055	0	-	-	-
	B-1	HFPK	11-25	76-100	0.962	0	-	-	1.7
	B-1	HFPK	11-25	101-125	0.072	0	-	-	-
	B-1	HFPK	26-50	76-100	0.441	0	-	-	-
	B-1	HFPK	26-50	101-125	0.383	0	-	-	-
	B-1	HFPK	26-50	126-150	0.032	0	-	-	-
	B-1	HFPK	51-75	76-100	0.320	0	-	-	-
	B-1	HFPK	51-75	101-125	0.025	0	-	-	-
	JB and B-2	HDIP	1-10	76-100	0.259	1	0.86	3.9	12.
	JB and B-2	HDIP	11-25	76-100	1.865	1	0.11	0.54	1.6
	JB and B-2	HDIP	26-50	76-100	0.130	0	-	-	-
	C-1	HDIP	11-25	76-100	0.004	0	-	-	-
	C-1	HFPK	1-10	51-75	0.053	0	-	-	-
	C-1	HFPK	1-10	76-100	0.277	1	0.81	3.6	11.
	C-1	HFPK	11-25	76-100	0.155	0	-	-	-
	C-1	HFPK	11-25	101-125	0.046	0	-	-	-
	C-1	HFPK	26-50	101-125	0.010	0	-	-	-
	C-1	HFPK	26-50	126-150	0.036	0	-	-	-
	C-1	HFPK	51-75	101-125	0.077	0	-	-	-
	C-1	HFPK	51-75	126-150	0.038	0	-	-	-
	B-2 to N	HDIP	1-10	76-100	0.484	0	-	-	-
	B-2 to N	HDIP	11-25	76-100	0.369	1	0.60	2.7	8.2
	B-2 to N	HDIP	26-50	76-100	0.174	0	-	-	-
	N	HFPK	1-10	51-75	0.564	0	-	-	2.9
	N	HFPK	1-10	76-100	1.444	0	-	-	1.1
	N	HFPK	11-25	76-100	0.347	0	-	-	-

TABLE 13: SUMMARIZED GENERIC FAILURE RATES
RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
MIL-STD-781B, LEVEL F (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
TTL (cont'd)	N	HPK	26-50	101-125	0.153	0	-	-	-
	N/R	HDIP	1-10	76-100	1.028	0	-	-	1.6
	N/R	HDIP	11-25	76-100	0.449	0	-	-	-
	N/R	HDIP	26-50	76-100	0.150	0	-	-	-
	N/R	HDIP	51-75	76-100	0.009	0	-	-	-

TABLE 14: SUMMARIZED GENERIC FAILURE RATES
RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
MIL-STD-781B, LEVEL H

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
DTL	C-1	HFPK	1-10	51-75	0.007	0	-	-	-
	C-1	HFPK	1-10	76-100	0.009	0	-	-	-
	C-1	HFPK	1-10	101-125	0.002	0	-	-	-
HTTL	B-1	HFPK	1-10	51-75	0.079	0	-	-	-
	C-1	HFPK	1-10	51-75	0.004	0	-	-	-
	C-1	HFPK	1-10	76-100	0.122	0	-	-	-
STTL TTL	C-1	HFPK	11-25	76-100	0.008	0	-	-	-
	B-1	HFPK	1-10	51-75	2.012	0	-	-	0.80
	B-1	HFPK	1-10	51-75	0.277	0	-	-	-
	B-1	HFPK	26-50	76-100	0.173	0	-	-	-
	C-1	HDIP	11-25	76-100	0.004	0	-	-	-
	C-1	HFPK	1-10	51-75	0.053	0	-	-	-
	C-1	HFPK	1-10	76-100	0.264	0	-	-	-
	C-1	HFPK	11-25	101-125	0.046	0	-	-	-
	C-1	HFPK	26-50	101-125	0.010	0	-	-	-
	C-1	HFPK	26-50	126-150	0.036	0	-	-	-
	C-1	HFPK	51-75	101-125	0.077	0	-	-	-
	C-1	HFPK	51-75	126-150	0.038	0	-	-	-

TABLE 15: GENERIC FAILURE RATES
RELIABILITY DEMONSTRATION AND EQUIPMENT CHECKOUT DATA
TCVPC

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶) QTY. FAILURES	STRESS LEVELS	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
DTL	B-1	CAN	1-10	51-75	0.003/0	4°C/51°C 24CYC 95%	-	-	-
HTTL	B-1	HDIP	1-10	51-75	0.003/0	4°C/51°C 24 CYC 95%	-	-	-
	B-1	HDIP	11-25	51-75	0.001/0	4°C/51°C 24CYC 95%	-	-	-
L TTL	B-1	HDIP	11-25	51-75	0.028/0	4°C/51°C 24CYC 95%	-	-	-
	B-1	HDIP	26-50	51-75	0.088/0	4°C/51°C 24CYC 95%	-	-	-
	B-1	HDIP	26-50	76-100	0.030/0	4°C/51°C 24CYC 95%	-	-	-
	B-1	HDIP	51-75	76-100	0.043/0	4°C/51°C 24CYC 95%	-	-	-
STTL	B-1	HDIP	1-10	51-75	0.071/0	4°C/51°C 24CYC 95%	-	-	-
	B-1	HDIP	11-25	51-75	0.033/0	4°C/51°C 24CYC 95%	-	-	-
	B-1	HDIP	51-75	76-100	0.010/0	4°C/51°C 24CYC 95%	-	-	-
TTL	B-1	HDIP	1-10	51-75	0.136/0	4°C/51°C 24CYC 95%	-	-	-
	B-1	HDIP	11-25	51-75	0.082/0	4°C/51°C 24CYC 95%	-	-	-
	B-1	HDIP	26-50	76-100	0.035/0	4°C/51°C 24CYC 95%	-	-	-
	B-1	HDIP	51-75	76-100	0.012/0	4°C/51°C 24CYC 95%	-	-	-

SUMMARIZED GENERIC FAILURE RATES - LIFE TEST DATA

Whereas the previous subsections have dealt exclusively with in-house, equipment-level testing (Tables 8 through 15) and observed field failure rate experience (Tables 1-8) as a comparative base for digital SSI/MSI microcircuits, the following subsection is designed to present insight into those factors influencing device lot reliability through part level life (including accelerated life) testing. Evaluation of this information will facilitate the understanding of temperature and bias effects on long-term microcircuit reliability.

The data summarized herein have been obtained from the detailed computer listings of Section 3 of this publication. This detailed listing represents collective material from numerous microcircuit vendors and users. Definitions for the conventions and abbreviations found in these tables may be reviewed by consulting the section entitled "Definitions of Terms, Statistical Methods and Abbreviations Used in the Data Analysis," found on page 7.

Table 16, "Summarized Generic Failure Rates (By Test Type) - Life Test Data," partitions life test types into four distinct classifications: Dynamic, Reverse Bias, Static Forward Bias and Storage. Each of the device fallout rates are represented as a function of operational type and gate complexity in an effort to better facilitate comparisons between logic types and their performance under each set of life test parameters. As an example, CMOS devices are found to be particularly susceptible to the thermal and voltage stresses of elevated Reverse Bias testing, while ECL microcircuits appear to be generally immune to Dynamic Life Tests and more responsive to Static Forward Bias Tests than other bipolar device categories. Bipolar microcircuits in these data appear to have had failures activated more frequently under Reverse Bias conditions than under the other conditions listed. A much more thorough discussion of part-level

life and screening tests is available from the document entitled "Micro-circuit Screening Effectiveness," RAC No. TRS-1, by H.C. Rickers. Details regarding this publication may be obtained by contacting the Reliability Analysis Center directly.

Table 17 groups summarized life test data by screen class level and is presented such that it may illustrate the distribution of microcircuit package types and their associated failure rates for each of the four previously defined life tests types at various stress levels within each quality grade. This table is more effectively used to examine the package susceptibility for a specific test type or over a specific operating temperature range. Comparisons may also be made between integrated circuit performance within a given screen class type and the performance of that same class of device, under similar stress levels, at a higher or lower screen class. Analysis of data within Table 17 indicates that, independent of the screen class, package type, or life test characteristics, device fallout rates increase dramatically at test temperatures in excess of 150°C.

Tables 18 through 21, which serve as the foundation for the summarization of the two tables just discussed, provide the complete generic test results for each of the four major test categories: Dynamic (Table 18), Reverse Bias (Table 19), Static Forward Bias (Table 20) and Storage (Table 21). The listed line entries of each table are sorted according to operational type, screen class level, package type, complexity and operating test conditions. Within each test category, these tables will supply the reader with optimum visibility into the interdependencies between each operational logic type failure rate, and its physical construction characteristics, with the appropriate life test parameters as guide.

TABLE 16: SUMMARIZED GENERIC FAILURE RATES (BY TEST TYPE)
LIFE TEST DATA

TEST TYPE	OPERATIONAL TYPE	COMPLEXITY (GATES)	PART HOURS (10^6)	QUANTITY OF FAILURES	FAILURE RATES ($F/10^6$ HOURS)		
					20% C.L.	POINT ESTIMATE	80% C.L.
DYNAMIC	COMBINED CMOS	COMBINED	286.730	401	1.3	1.4	1.5
		COMBINED	7.698	128	15.	17.	18.
		1-10	6.605	111	15.	17.	18.
		26-50	0.960	17	14.	18.	22.
	PMOS	51-75	0.133	0	-	-	-
		COMBINED	0.945	2	0.87	2.1	4.5
		1-10	0.281	2	2.9	7.1	15.
		11-25	0.664	0	-	-	2.4
	DTL	COMBINED	90.447	99	1.0	1.1	1.2
		1-10	87.784	52	0.52	0.59	0.67
		11-25	1.917	46	21.	24.	27.
		26-50	0.747	1	0.30	1.3	4.0
	ECL	COMBINED	68.843	17	0.20	0.25	0.31
		1-10	68.345	3	0.022	0.044	0.081
		11-25	0.452	14	24.	31.	40.
		26-50	0.046	0	-	-	-
	HTTL	COMBINED	4.053	3	0.38	0.74	1.4
		1-10	3.443	3	0.45	0.87	1.6
		11-25	0.610	0	-	-	2.6
	LTTL	COMBINED	1.658	30	15.	18.	21.
		1-10	0.896	10	8.1	11.	15.
		11-25	0.658	14	16.	21.	28.
		26-50	0.104	6	-	-	-
	STTL	COMBINED	2.786	5	1.1	1.8	2.8
		1-10	2.402	4	0.96	1.7	2.9
		11-25	0.384	1	0.58	2.6	7.8
	LSTTL	COMBINED	3.400	6	1.1	1.8	2.7
		1-10	3.318	6	1.2	1.8	2.7
		51-75	0.082	0	-	-	-
	TTL	COMBINED	106.901	111	0.95	1.0	1.1
		1-10	81.699	70	0.77	0.86	0.95
		11-25	19.931	35	1.5	1.8	2.1

TABLE 16: SUMMARIZED GENERIC FAILURE RATES (BY TEST TYPE)
LIFE TEST DATA (CONTINUED)

TEST TYPE	OPERATIONAL TYPE	COMPLEXITY (GATES)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES		FAILURE RATES (F/10 ⁶ HOURS)		
						20% C.L.	POINT ESTIMATE	80% C.L.
DYNAMIC (cont'd) REVERSE BIAS	TTL (cont'd)	26-50	4.718	5		0.65	1.1	1.7
		51-75	0.553	1		0.40	1.8	5.4
	COMBINED	COMBINED	72.499	862		12.	12.	12.
	CMOS	COMBINED	11.396	508		43.	45.	46.
		1-10	9.188	502		53.	55.	57.
		11-25	0.418	4		5.5	9.6	16.
		26-50	1.170	1		0.19	0.85	2.6
		51-75	0.335	1		0.67	3.0	8.9
		76-99	0.285	0		-	-	-
	PMOS	COMBINED	2.411	1		0.093	0.41	1.2
DTL		1-10	2.245	1		0.099	0.45	1.3
		11-25	0.165	0		-	-	-
		COMBINED	10.016	45		3.9	4.5	5.2
		1-10	7.957	40		4.4	5.0	5.8
		11-25	0.459	1		0.49	2.2	6.5
		26-50	1.600	4		1.4	2.5	4.2
		COMBINED	6.302	14		1.7	2.2	2.9
	ECL	1-10	5.936	12		1.5	2.0	2.7
		11-25	0.366	2		2.3	5.5	12.
	HTTL	COMBINED	0.612	1		0.36	1.6	4.9
LTL		1-10	0.510	0		-	-	3.2
		11-25	0.102	1		-	-	-
		COMBINED	4.703	15		2.5	3.2	4.1
		1-10	3.420	15		3.4	4.4	5.6
		11-25	0.576	0		-	-	2.8
		26-50	0.575	0		-	-	2.8
		51-75	0.132	0		-	-	-
	STTL	COMBINED	1.534	31		17.	20.	24.
		1-10	1.097	19		14.	17.	22.
		11-25	0.457	12		20.	26.	35.
LSTTL		COMBINED	2.372	9		2.7	3.8	5.3
		1-10	2.261	6		1.7	2.7	4.0
		11-25	0.111	3		-	-	-

TABLE 16: SUMMARIZED GENERIC FAILURE RATES (BY TEST TYPE)
LIFE TEST DATA (CONTINUED)

TEST TYPE	OPERATIONAL TYPE	COMPLEXITY (GATES)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)			
					20% C.L.	POINT ESTIMATE	80% C.L.	
REVERSE BIAS (cont'd)	TTL	COMBINED	33.064	229	6.5	6.9	7.3	
		1-10	18.841	211	11.	11.	12.	
		11-25	8.575	11	0.95	1.3	1.7	
		26-50	3.482	5	0.89	1.4	2.3	
		51-75	2.167	2	0.38	0.92	2.0	
STATIC FORWARD BIAS	COMBINED CMOS	COMBINED	56.404	155	2.6	2.7	2.9	
		COMBINED	1.014	1	0.22	0.99	3.0	
		1-10	1.014	1	0.22	0.99	3.0	
	PMOS	COMBINED	0.158	0	-	-	-	
		26-50	0.158	0	-	-	-	
	DTL	COMBINED	0.231	0	-	-	-	
		1-10	0.231	0	-	-	-	
	ECL	COMBINED	10.320	132	12.	13.	14.	
		1-10	6.770	103	14.	15.	17.	
		11-25	3.460	29	7.1	8.4	10.	
	HTTL	51-75	0.090	0	-	-	-	
		COMBINED	1.171	0	-	-	1.4	
		1-10	0.800	0	-	-	2.0	
	LTTL	11-25	0.371	0	-	-	-	
		COMBINED	0.130	2	6.4	15.	33.	
		1-10	0.054	2	-	-	-	
STTL	COMBINED	26-50	0.076	0	-	-	-	
		COMBINED	35.380	0	-	-	0.045	
		1-10	35.380	0	-	-	0.045	
	LSTTL	COMBINED	0.061	0	-	-	-	
		1-10	0.061	0	-	-	-	
	TTL	COMBINED	7.940	20	2.0	2.5	3.1	
		1-10	5.985	14	1.8	2.3	3.0	
		11-25	0.936	1	0.24	1.1	3.2	
		26-50	0.615	3	2.5	4.9	9.0	
		51-75	0.405	2	2.0	4.9	11.	
STORAGE	COMBINED	COMBINED	73.443	100	1.2	1.4	1.5	

TABLE 16: SUMMARIZED GENERIC FAILURE RATES (BY TEST TYPE)
LIFE TEST DATA (CONTINUED)

TEST TYPE	OPERATIONAL TYPE	COMPLEXITY (GATES)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES		FAILURE RATES (F/10 ⁶ HOURS)			
						20% C.L.	POINT ESTIMATE	80% C.L.	
STORAGE (cont'd)	CMOS	COMBINED	0.639	7		7.4	11.	16.	
		1-10	0.474	7		10.	15.	22.	
		11-25	0.110	0		-	-	-	
		26-50	0.055	0		-	-	-	
	DTL	COMBINED	18.094	12		0.50	0.66	0.88	
		1-10	17.973	12		0.50	0.67	0.88	
		11-25	0.036	0		-	-	-	
		26-50	0.085	0		-	-	-	
	ECL	COMBINED	3.884	7		1.2	1.8	2.6	
		1-10	3.140	5		0.98	1.6	2.5	
		11-25	0.604	1		0.37	1.7	5.0	
		26-50	0.092	0		-	-	-	
	HTTL	51-75	0.049	1		-	-	-	
		COMBINED	3.029	8		1.8	2.6	3.8	
		1-10	2.519	5		1.2	2.0	3.1	
		11-25	0.510	3		3.0	5.9	11.	
	LTTL	COMBINED	3.970	1		0.056	0.25	0.75	
		1-10	3.228	1		0.069	0.31	0.93	
		11-25	0.413	0		-	-	-	
		26-50	0.186	0		-	-	-	
	STTL	51-75	0.143	0		-	-	-	
		COMBINED	1.215	12		7.4	9.9	13.	
		1-10	0.932	6		4.2	6.4	9.7	
		11-25	0.284	6		14.	21.	32.	
	LSTTL	COMBINED	3.571	4		0.64	1.1	1.9	
		1-10	3.313	3		0.46	0.91	1.7	
11-25		0.212	1		-	-	-		
51-75		0.046	0		-	-	-		
TTL	COMBINED	39.039	49		1.1	1.3	1.4		
	1-10	26.450	33		1.1	1.2	1.5		
	11-25	8.340	15		1.4	1.8	2.3		
	26-50	2.482	0		-	-	0.65		
		51-75	1.767	1	0.13	0.57	1.7		

TABLE 17: SUMMARIZED GENERIC FAILURE RATES (BY SCREEN CLASS)
LIFE TEST DATA

SCREEN CLASS	PACKAGE TYPE	T _j (°C)	TEST TYPE	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
						20% C.L.	POINT ESTIMATE	80% C.L.
A-1	COMBINED HDIP	COMBINED	COMBINED	0.191	0	-	-	-
		COMBINED	COMBINED	0.133	0	-	-	-
	HFPA	101-125	DYNAMIC	0.133	0	-	-	-
		COMBINED	COMBINED	0.058	0	-	-	-
A-2	COMBINED HFPA	101-125	REV BIAS	0.058	0	-	-	-
		COMBINED	COMBINED	1.121	0	-	-	1.4
		COMBINED	COMBINED	1.121	0	-	-	1.4
		101-125	DYNAMIC	0.040	0	-	-	-
B-1	COMBINED HDIP	126-150	DYNAMIC	0.151	0	-	-	-
		126-150	STORAGE	0.930	0	-	-	1.7
		COMBINED	COMBINED	26.601	201	7.1	7.6	8.0
		COMBINED	COMBINED	14.007	95	6.2	6.8	7.4
		101-125	REV BIAS	0.129	1	-	-	-
		126-150	DYNAMIC	6.515	31	4.0	4.8	5.6
		126-150	STAT.FORM.BIAS	2.110	4	1.1	1.9	3.2
		126-150	STORAGE	4.562	8	1.2	1.8	2.5
	HFPA	151-175	DYNAMIC	0.360	3	4.3	8.3	15.
		151-175	STAT.FORM.BIAS	0.223	2	3.7	9.0	19.
		201-225	REV BIAS	0.109	46	-	-	-
		COMBINED	COMBINED	12.594	106	7.7	8.4	9.2
B-2		126-150	DYNAMIC	7.405	80	9.8	11.	12.
		126-150	STAT.FORM.BIAS	0.619	1	0.36	1.6	4.8
		126-150	STORAGE	3.369	2	0.24	0.59	1.3
		151-175	DYNAMIC	0.794	0	-	-	2.0
		201-225	REV BIAS	0.276	2	3.0	7.2	16.
		276-300	REV BIAS	0.131	21	130.	160.	197.
		COMBINED	COMBINED	3.763	3	0.41	0.80	1.5
		COMBINED	COMBINED	1.715	2	0.48	1.2	2.5
	COMBINED HDIP	126-150	DYNAMIC	0.951	2	0.87	2.1	4.5
		126-150	STORAGE	0.764		-	-	2.1
		COMBINED	COMBINED	1.793		0.12	0.56	1.7
		101-125	DYNAMIC	0.08		-	-	-

TABLE 17: SUMMARIZED GENERIC FAILURE RATES (BY SCREEN CLASS)
LIFE TEST DATA (CONTINUED)

SCREEN CLASS	PACKAGE TYPE	T _j (°C)	TEST TYPE	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
						20% C.L.	POINT ESTIMATE	80% C.L.
B-2 (cont'd)	HFPK (cont'd)	126-150	DYNAMIC	0.522	0	-	-	3.1
		126-150	STORAGE	1.054	1	0.21	0.95	2.8
	CAN	151-175	DYNAMIC	0.132	0	-	-	-
		COMBINED	COMBINED	0.255	0	-	-	-
		126-150	DYNAMIC	0.154	0	-	-	-
		126-150	STORAGE	0.101	0	-	-	-
	COMBINED HDIP	COMBINED	COMBINED	24.385	565	22.	23.	24.
		COMBINED	COMBINED	15.254	542	34.	36.	37.
		101-125	DYNAMIC	0.604	91	137.	151.	166.
		101-125	REV BIAS	0.521	0	-	-	3.1
C-1		126-150	DYNAMIC	8.026	7	0.59	0.87	1.3
		126-150	STAT. FORM. BIAS	0.181	1	-	-	-
		126-150	STORAGE	4.970	4	0.46	0.80	1.4
		151-175	STAT. FORM. BIAS	0.443	0	-	-	-
		176-200	REV BIAS	0.117	141	-	-	-
		201-225	REV BIAS	0.230	160	649.	695.	745.
		201-225	STORAGE	0.122	7	-	-	-
		226-250	REV BIAS	0.040	131	-	-	-
		COMBINED	COMBINED	9.131	23	2.1	2.5	3.1
		101-125	DYNAMIC	1.409	2	0.59	1.4	3.0
C-2		126-150	DYNAMIC	3.218	3	0.48	0.93	1.7
		126-150	STORAGE	2.348	1	0.095	0.43	1.3
		176-200	REV BIAS	0.687	3	2.2	4.4	8.0
		201-225	REV BIAS	0.830	2	0.99	2.4	5.2
		226-250	REV BIAS	0.380	12	24.	32.	42.
		251-275	REV BIAS	0.170	0	-	-	-
		276-300	STORAGE	0.090	0	-	-	-
		COMBINED	COMBINED	2.151	11	3.8	5.1	6.9
		COMBINED	COMBINED	1.759	9	3.7	5.1	7.1
		126-150	DYNAMIC	1.277	9	5.0	7.0	9.8
C-2	COMBINED HDIP	126-150	STORAGE	0.482	0	-	-	-
		COMBINED	COMBINED	0.392	2	2.1	5.1	11.

TABLE 17: SUMMARIZED GENERIC FAILURE RATES (BY SCREEN CLASS)
LIFE TEST DATA (CONTINUED)

SCREEN CLASS	PACKAGE TYPE	T _j (°C)	TEST TYPE	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
						20% C.L.	POINT ESTIMATE	80% C.L.
C-1 (cont'd) N	HFPK (cont'd) COMBINED HDIP	126-150	DYNAMIC	0.149	2	5.5	13.	29.
		126-150	STORAGE	0.166	0	-	-	-
		176-200	DYNAMIC	0.077	0	-	-	-
		COMBINED	COMBINED	421.178	731	1.7	1.7	1.8
		COMBINED	COMBINED	104.799	334	3.0	3.2	3.3
		26-50	REV BIAS	4.950	17	2.7	3.4	4.3
		51-75	REV BIAS	1.292	2	0.64	1.5	3.3
		76-100	DYNAMIC	2.594	4	0.89	1.5	2.6
		76-100	REV BIAS	0.838	3	1.8	3.6	6.6
		76-100	STAT. FORM. BIAS	3.679	4	0.62	1.1	1.8
		101-125	DYNAMIC	4.800	47	8.6	9.8	11.
		101-125	REV BIAS	24.793	41	1.4	1.7	1.9
		101-125	STAT. FORM. BIAS	6.465	6	0.60	0.93	1.4
		101-125	STORAGE	0.419	0	-	-	-
		126-150	DYNAMIC	29.416	16	0.43	0.54	0.69
		126-150	REV BIAS	0.508	3	3.0	5.9	11.
		126-150	STAT. FORM. BIAS	0.555	0	-	-	2.9
		126-150	STORAGE	16.926	17	0.80	1.0	1.3
		151-175	DYNAMIC	2.557	0	-	-	0.63
		151-175	STAT. FORM. BIAS	0.920	1	0.24	1.1	3.3
		151-175	STORAGE	0.117	0	-	-	-
		176-200	REV BIAS	0.723	5	4.3	6.9	11.
		176-200	STAT. FORM. BIAS	0.350	26	62.	74.	89.
		176-200	STORAGE	0.177	0	-	-	-
		201-225	DYNAMIC	0.077	0	-	-	-
		201-225	REV BIAS	0.154	4	15.	25.	24.
		201-225	STAT. FORM. BIAS	0.104	14	-	-	-
		226-250	DYNAMIC	0.072	1	-	-	-
		226-250	REV BIAS	0.252	13	39.	52.	68.
		226-250	STAT. FORM. BIAS	0.265	60	202.	226.	255.
		226-250	STORAGE	0.821	7	5.8	8.5	12.
		251-275	DYNAMIC	0.072	0	-	-	-

TABLE 17: SUMMARIZED GENERIC FAILURE RATES (BY SCREEN CLASS)
LIFE TEST DATA (CONTINUED)

SCREEN CLASS	PACKAGE TYPE	T _j (°C)	TEST TYPE	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
						20% C.L.	POINT ESTIMATE	80% C.L.
N (cont'd)	HDIP (cont'd)	251-275	REV BIAS	0.180	13	55.	72.	95.
		251-275	STAT.FORM.BIAS	0.061	24	-	-	-
		276-300	STORAGE	0.663	6	5.9	9.0	14.
		COMBINED	COMBINED	281.840	339	1.1	1.2	1.3
			DYNAMIC	137.223	0	-	-	0.012
		26-50	REV BIAS	8.525	152	17.	18.	19.
		51-75	REV BIAS	0.656	8	8.5	12.	17.
		76-100	DYNAMIC	0.080	0	-	-	-
		76-100	REV BIAS	1.153	4	2.0	3.5	5.8
		76-100	STAT.FORM.BIAS	0.174	0	-	-	-
		101-125	DYNAMIC	10.456	47	3.9	4.5	5.1
		101-125	REV BIAS	7.616	32	3.6	4.2	5.0
	PDIP	101-125	STAT.FORM.BIAS	1.573	1	0.14	0.64	1.9
		126-150	DYNAMIC	53.749	43	0.70	0.80	0.92
		126-150	STAT.FORM.BIAS	1.724	9	3.7	5.2	7.3
		126-150	STORAGE	23.576	43	1.6	1.8	2.1
		151-175	DYNAMIC	0.030	0	-	-	-
		151-175	STAT.FORM.BIAS	35.305	0	-	-	0.046
		COMBINED	COMBINED	32.508	58	1.6	1.8	2.0
			DYNAMIC	0.740	0	-	-	2.2
		26-50	REV BIAS	1.150	36	27.	31.	37.
		51-75	REV BIAS	0.015	0	-	-	-
		76-100	DYNAMIC	0.046	1	-	-	-
		101-125	DYNAMIC	0.961	1	0.23	1.0	3.1
	HFPK	101-125	REV BIAS	14.579	10	0.50	0.69	0.94
		101-125	STAT.FORM.BIAS	1.106	1	0.20	0.90	2.7
		101-125	STORAGE	0.208	0	-	-	-
		126-150	DYNAMIC	2.929	5	1.1	1.7	2.7
		126-150	REV BIAS	0.315	0	-	-	-
		126-150	STAT.FORM.BIAS	0.485	1	0.46	2.1	6.2
		126-150	STORAGE	9.233	2	0.089	0.22	0.46
		151-175	DYNAMIC	0.566	1	0.39	1.8	5.3

TABLE 17: SUMMARIZED GENERIC FAILURE RATES (BY SCREEN CLASS)
LIFE TEST DATA (CONTINUED)

SCREEN CLASS	PACKAGE TYPE	T _j (°C)	TEST TYPE	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
						20% C.L.	POINT ESTIMATE	80% C.L.
X	HFPK (cont'd)	151-175	STORAGE	0.015	0	-	-	-
		201-225	DYNAMIC	0.064	0	-	-	-
	CAN	201-225	STAT.FORM.BIAS	0.064	0	-	-	-
		276-300	STORAGE	0.032	0	-	-	-
	CAN	COMBINED	COMBINED	2.031	0	-	-	0.79
		76-100	DYNAMIC	0.196	0	-	-	-
		101-125	DYNAMIC	0.046	0	-	-	-
		101-125	REV BIAS	1.123	0	-	-	1.4
		126-150	STORAGE	0.666	0	-	-	2.4
		COMBINED	COMBINED	9.686	7	0.49	0.72	1.1
	COMBINED HDIP	COMBINED	COMBINED	9.207	7	0.51	0.76	1.1
		101-125	DYNAMIC	7.660	5	0.40	0.65	1.0
	HFPK	126-150	STORAGE	1.547	2	0.53	1.3	2.8
		COMBINED	COMBINED	0.228	0	-	-	-
		101-125	DYNAMIC	0.221	0	-	-	-
		126-150	STORAGE	0.007	0	-	-	-
	CAN	COMBINED	COMBINED	0.251	0	-	-	-
		101-125	DYNAMIC	0.174	0	-	-	-
		126-150	STORAGE	0.077	0	-	-	-

TABLE 18: GENERIC FAILURE RATES
DYNAMIC LIFE TESTS

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _J (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
CMOS	A-1	HDIP	51-75	101-125	0.133	0	-	-	-
	C-1	HDIP	1-10	101-125	0.604	91	137.	151.	166.
	N	HDIP	1-10	101-125	1.480	1	0.15	0.68	2.0
	N	HDIP	1-10	126-150	0.678	0	-	-	2.4
	N	HDIP	26-50	101-125	0.710	15	16.	21.	27.
	N	PDIP	1-10	101-125	3.747	19	4.1	5.1	6.3
	N	PDIP	26-50	101-125	0.249	2	3.3	8.0	17.
	X	HDIP	1-10	101-125	0.096	0	-	-	-
	N	HDIP	1-10	126-150	0.281	2	2.9	7.1	15.
	N	HDIP	11-25	126-150	0.468	0	-	-	-
PMOS	N	CAN	11-25	76-100	0.196	0	-	-	-
	A-2	HFPK	1-10	126-150	0.038	0	-	-	-
	B-1	HFPK	1-10	126-150	2.289	25	9.1	11.	13.
	B-1	HFPK	11-25	126-150	0.409	44	94.	108.	124.
	B-1	HFPK	26-50	126-150	0.038	0	-	-	-
	B-2	HDIP	1-10	126-150	0.158	0	-	-	-
	B-2	HDIP	11-25	126-150	0.105	1	-	-	-
	B-2	HDIP	26-50	126-150	0.055	0	-	-	-
	B-2	HFPK	1-10	101-125	0.040	0	-	-	-
	B-2	HFPK	1-10	126-150	0.023	0	-	-	-
DTL	B-2	CAN	1-10	126-150	0.143	0	-	-	-
	B-2	CAN	11-25	126-150	0.011	0	-	-	-
	C-1	HDIP	1-10	126-150	4.648	4	0.49	0.86	1.5
	C-1	HDIP	11-25	126-150	0.794	1	0.28	1.3	3.8
	C-1	HDIP	26-50	126-150	0.315	0	-	-	-
	C-1	HFPK	1-10	126-150	2.204	2	0.37	0.91	1.9
	C-1	HFPK	11-25	126-150	0.316	0	-	-	-
	C-2	HDIP	1-10	126-150	0.591	4	3.9	6.8	11.
	C-2	HDIP	26-50	126-150	0.105	0	-	-	-
	C-2	HFPK	1-10	126-150	0.063	0	-	-	-
N	N	HDIP	1-10	126-150	13.395	6	0.29	0.45	0.68
	N	HDIP	11-25	126-150	0.100	0	-	-	-
	N	HDIP	26-50	126-150	0.234	1	-	-	-
	N	HDIP	26-50	126-150	0.234	1	-	-	-

TABLE 18: GENERIC FAILURE RATES
DYNAMIC LIFE TESTS (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
DTL (cont'd)	N	HDIP	1-10	26-50	50.504	0	-	-	0.031
	N	PDIP	1-10	126-150	12.082	7	0.39	0.58	0.85
	N	PDIP	11-25	126-150	0.105	0	-	-	-
	N	HFPK	1-10	101-125	0.651	0	-	-	2.5
	N	HFPK	1-10	126-150	0.909	4	2.5	4.4	7.4
	N	HFPK	11-25	126-150	0.077	0	-	-	-
	N	CAN	1-10	101-125	0.046	0	-	-	-
	N	HDIP	1-10	101-125	0.141	1	-	-	-
	N	HDIP	1-10	126-150	0.198	2	4.2	10.	22.
	N	HDIP	11-25	101-125	0.452	14	4.	31.	40.
ECL	N	HDIP	26-50	101-125	0.046	0	-	-	-
	N	PDIP	1-10	26-50	68.006	0	-	-	0.024
	B-1	HDIP	1-10	126-150	0.528	1	0.42	1.9	5.7
	B-1	HFPK	1-10	126-150	0.397	0	-	-	-
	B-2	HFPK	1-10	126-150	0.055	0	-	-	-
	C-1	HDIP	1-10	126-150	0.182	0	-	-	-
	C-2	HDIP	1-10	126-150	0.239	0	-	-	-
	N	HDIP	1-10	101-125	0.045	0	-	-	-
	N	HDIP	1-10	126-150	0.820	2	1.0	2.4	5.2
	N	HDIP	11-25	126-150	0.105	0	-	-	-
LTL	X	HDIP	1-10	101-125	1.177	0	-	-	-
	X	HDIP	11-25	101-125	0.505	0	-	-	-
	B-1	HDIP	1-10	126-150	0.305	6	13.	20.	30.
	B-1	HDIP	11-25	126-150	0.129	10	57.	78.	106.
	B-1	HFPK	1-10	126-150	0.189	0	-	-	-
	B-1	HFPK	11-25	126-150	0.077	1	-	-	-
	N	HDIP	1-10	101-125	0.402	4	5.7	10.	17.
	N	HDIP	11-25	101-125	0.232	3	6.6	13.	24.
	N	HDIP	26-50	101-125	0.058	5	-	-	-
	N	HFPK	11-25	126-150	0.220	0	-	-	-
STTL	N	HFPK	26-50	76-100	0.046	1	-	-	-
	N	HDIP	1-10	101-125	0.115	0	-	-	-

TABLE 18: GENERIC FAILURE RATES
DYNAMIC LIFE TESTS (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	Tj (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
STTL (cont'd)	N	HDIP	1-10	126-150	0.025	0	-	-	-
	N	HDIP	1-10	76-100	0.080	0	-	-	-
	N	PDIP	1-10	101-125	0.715	1	0.31	1.4	4.2
	N	PDIP	1-10	126-150	0.345	1	0.65	2.9	8.7
	N	PDIP	11-25	101-125	0.284	1	0.79	3.5	11.
	N	PDIP	11-25	126-150	0.100	0	-	-	-
	X	HDIP	1-10	101-125	1.122	2	0.73	1.8	3.8
	N	HDIP	1-10	101-125	0.102	1	-	-	-
	N	HDIP	1-10	201-225	0.077	0	-	-	-
	N	HDIP	1-10	226-250	0.072	1	-	-	-
LSTTL	N	HDIP	1-10	251-275	0.072	0	-	-	-
	N	PDIP	1-10	101-125	1.645	3	0.93	1.8	3.4
	N	PDIP	1-10	126-150	0.385	1	0.58	2.6	7.8
	N	PDIP	51-75	101-125	0.082	0	-	-	-
	X	HDIP	1-10	101-125	0.965	0	-	-	1.7
	A-2	HFPK	1-10	101-125	0.040	0	-	-	-
	A-2	HFPK	1-10	126-150	0.084	0	-	-	-
	A-2	HFPK	11-25	126-150	0.029	0	-	-	-
	B-1	HDIP	1-10	126-150	3.462	10	2.1	2.9	3.9
	B-1	HDIP	1-10	151-175	0.010	0	-	-	-
TTL	B-1	HDIP	11-25	126-150	1.868	4	1.2	2.1	3.6
	B-1	HDIP	26-50	126-150	0.223	0	-	-	-
	B-1	HDIP	26-50	151-175	0.350	3	4.4	8.6	16.
	B-1	HFPK	1-10	126-150	3.475	9	1.9	2.6	3.6
	B-1	HFPK	1-10	151-175	0.397	0	-	-	-
	B-1	HFPK	11-25	126-150	0.532	1	0.42	1.9	5.6
	B-1	HFPK	11-25	151-175	0.397	0	-	-	-
	B-2	HDIP	1-10	126-150	0.504	1	0.44	2.0	5.9
	B-2	HDIP	11-25	126-150	0.129	1	-	-	-
	B-2	HFPK	1-10	126-150	0.378	0	-	-	-
	B-2	HFPK	11-25	101-125	0.045	0	-	-	-
	B-2	HFPK	11-25	126-150	0.055	0	-	-	-

TABLE 18: GENERIC FAILURE RATES
DYNAMIC LIFE TESTS (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	Tj (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
TTL (cont'd)	B-2	HFPK	11-25	151-175	0.132	0	-	-	-
	B-2	HFPK	51-75	126-150	0.110	0	-	-	-
	C-1	HDIP	1-10	126-150	1.300	0	-	-	1.2
	C-1	HDIP	11-25	126-150	0.682	2	1.2	2.9	6.3
	C-1	HFPK	26-50	126-150	0.105	0	-	-	-
	C-1	HFPK	1-10	101-125	1.409	2	0.59	1.4	3.0
	C-1	HFPK	1-10	126-150	0.698	1	0.32	1.4	4.3
	C-2	HFPK	1-10	126-150	0.290	3	5.3	10.	19.
	C-2	HDIP	11-25	126-150	0.052	2	-	-	-
	C-2	HFPK	1-10	126-150	0.086	2	-	-	-
	C-2	HFPK	51-75	176-200	0.077	0	-	-	-
	N	HDIP	1-10	76-100	2.594	4	0.89	1.5	2.6
	N	HDIP	1-10	101-125	0.635	2	1.3	3.2	6.7
	N	HDIP	1-10	126-150	12.671	3	0.12	0.24	0.44
	N	HDIP	11-25	101-125	0.136	0	-	-	-
	N	HDIP	11-25	126-150	0.336	0	-	-	-
	N	HDIP	26-50	101-125	0.246	1	-	-	-
	N	HDIP	26-50	126-150	0.105	0	-	-	-
	N	HDIP	26-50	151-175	2.505	0	-	-	0.65
	N	HDIP	51-75	151-175	0.052	0	-	-	-
	N	PDIP	1-10	26-50	18.713	0	-	-	0.086
	N	PDIP	1-10	101-125	2.663	15	4.4	5.6	7.2
	N	PDIP	1-10	126-150	27.764	17	0.49	0.61	0.77
	N	PDIP	1-10	151-175	0.030	0	-	-	-
	N	PDIP	11-25	101-125	0.664	5	4.6	7.5	12.
	N	PDIP	11-25	126-150	12.923	17	1.0	1.3	1.7
	N	PDIP	26-50	101-125	0.214	0	-	-	-
	N	PDIP	26-50	126-150	0.045	0	-	-	-
	N	PDIP	51-75	101-125	0.191	1	-	-	-
	N	HFPK	1-10	26-50	0.740	0	-	-	-
	N	HFPK	1-10	126-150	1.683	1	0.13	0.59	2.2
	N	HFPK	1-10	151-175	0.526	0	-	-	1.8
	N	HFPK	1-10	151-175	0.526	0	-	-	3.1

TABLE 18: GENERIC FAILURE RATES
DYNAMIC LIFE TESTS (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
TTL (cont'd)	N	HFPK	1-10	201-225	0.064	0	-	-	-
	N	HFPK	11-25	101-125	0.310	1	0.72	3.2	9.7
	N	HFPK	11-25	126-150	0.040	0	-	-	-
	N	HFPK	11-25	151-175	0.040	1	-	-	-
	X	HDIP	1-10	101-125	1.263	0	-	-	1.3
	X	HDIP	11-25	101-125	1.559	2	0.53	1.3	2.7
	X	HDIP	26-50	101-125	0.751	1	0.30	1.3	4.0
	X	HDIP	51-75	101-125	0.222	0	-	-	-
	X	HFPK	1-10	101-125	0.221	0	-	-	-
	X	CAN	26-50	101-125	0.174	0	-	-	-

TABLE 19: GENERIC FAILURE RATES
REVERSE BIAS LIFE TESTS

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
CMOS	B-1	HDIP	1-10	201-225	0.109	46	-	-	-
	C-1	HDIP	1-10	176-200	0.117	141	-	-	-
	C-1	HDIP	1-10	201-225	0.231	160	649.	695.	745.
	C-1	HDIP	1-10	226-250	0.040	131	-	-	-
	N	HDIP	1-10	76-100	0.598	3	2.6	5.0	9.2
	N	HDIP	1-10	101-125	2.505	5	1.2	2.0	3.2
	N	HDIP	11-25	101-125	0.356	1	0.63	2.8	8.4
	N	HDIP	26-50	76-100	0.240	0	-	-	-
	N	HDIP	26-50	101-125	0.442	0	-	-	-
	N	HDIP	51-75	101-125	0.077	1	-	-	-
	N	HDIP	76-100	101-125	0.285	0	-	-	-
	N	PDIP	1-10	76-100	0.816	3	1.9	3.7	6.8
	N	PDIP	1-10	101-125	4.773	13	2.1	2.7	3.6
	N	PDIP	11-25	101-125	0.062	3	-	-	-
	N	PDIP	26-50	76-100	0.337	1	0.66	3.0	8.9
PMOS	N	PDIP	26-50	101-125	0.151	0	-	-	-
	N	PDIP	51-75	101-125	0.258	0	-	-	-
	N	HDIP	1-10	101-125	0.052	0	-	-	-
	N	PDIP	1-10	101-125	0.060	1	-	-	-
	N	PDIP	11-25	101-125	0.165	0	-	-	-
	N	HFPK	1-10	101-125	1.159	0	-	-	-
	N	CAN	1-10	101-125	0.974	0	-	-	1.4
	N	HDIP	1-10	26-50	2.010	2	0.41	1.0	1.7
	N	HDIP	1-10	101-125	2.804	5	1.1	1.8	2.1
	N	HDIP	11-25	101-125	0.262	0	-	-	2.8
DTL	N	HDIP	26-50	101-125	1.575	4	1.5	2.5	4.3
	N	PDIP	1-10	26-50	0.754	20	21.	27.	33.
	N	PDIP	1-10	51-75	0.100	2	-	-	-
	N	PDIP	1-10	101-125	0.069	11	-	-	-
	N	PDIP	26-50	51-75	0.025	0	-	-	-
	N	HFPK	1-10	101-125	2.071	0	-	-	-
	N	HFPK	11-25	101-125	0.197	1	-	-	0.78

TABLE 19: GENERIC FAILURE RATES
REVERSE BIAS LIFE TESTS (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
DTL (cont'd) ECL	N	CAN	1-10	101-125	0.149	0	-	-	-
	N	HDIP	1-10	51-75	1.242	2	0.66	1.6	3.4
	N	HDIP	1-10	101-125	1.645	7	2.9	4.3	6.2
	N	HDIP	1-10	176-200	0.450	2	1.8	4.4	9.5
HTTL	N	HDIP	11-25	101-125	0.366	2	2.3	5.5	12.
	N	HFPK	1-10	101-125	2.599	1	0.086	0.38	1.2
	N	HDIP	1-10	101-125	0.279	0	-	-	-
	N	PDIP	1-10	101-125	0.231	0	-	-	-
L TTL	N	PDIP	11-25	51-75	0.025	1	-	-	-
	N	PDIP	11-25	101-125	0.077	0	-	-	-
	N	HDIP	1-10	26-50	2.940	15	4.0	5.1	6.5
	N	HDIP	1-10	101-125	0.100	0	-	-	-
STTL	N	HDIP	1-10	176-200	0.168	0	-	-	-
	N	HDIP	11-25	101-125	0.419	0	-	-	-
	N	HDIP	26-50	101-125	0.384	0	-	-	-
	N	HDIP	51-75	101-125	0.100	0	-	-	-
	N	PDIP	1-10	101-125	0.020	0	-	-	-
	N	HFPK	1-10	101-125	0.192	0	-	-	-
	N	HFPK	11-25	101-125	0.157	0	-	-	-
	N	HFPK	26-50	101-125	0.191	0	-	-	-
	N	HFPK	51-75	101-125	0.032	0	-	-	-
	N	HDIP	1-10	101-125	0.950	2	0.87	2.1	4.5
	N	HDIP	1-10	201-225	0.039	3	-	-	-
	N	HDIP	1-10	226-250	0.072	6	-	-	-
LSTTL	N	HDIP	1-10	251-275	0.036	8	-	-	-
	N	HDIP	11-25	101-125	0.244	0	-	-	-
	N	HDIP	11-25	176-200	0.105	3	-	-	-
	N	HDIP	11-25	226-250	0.072	6	-	-	-
	N	HDIP	11-25	251-275	0.036	3	-	-	-
	N	HDIP	1-10	101-125	1.532	2	0.54	1.3	2.8
	N	HDIP	1-10	126-150	0.508	3	3.0	5.9	11.
	N	HDIP	1-10	201-225	0.077	0	-	-	-

TABLE 19: GENERIC FAILURE RATES
REVERSE BIAS LIFE TESTS (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
LSTTL (cont.)	N	HDIP	1-10	226-250	0.072	1	-	-	-
	N	HDIP	1-10	251-275	0.072	0	-	-	-
	N	HDIP	11-25	201-225	0.039	1	-	-	-
	N	HDIP	11-25	226-250	0.036	0	-	-	-
	N	HDIP	11-25	251-275	0.036	2	-	-	-
	A-1	HFPK	11-25	101-125	0.058	0	-	-	-
	B-1	HDIP	51-75	101-125	0.129	1	-	-	-
	B-1	HFPK	1-10	201-225	0.276	2	3.0	7.2	16.
	B-1	HFPK	1-10	276-300	0.131	21	130.	160.	197.
	C-1	HDIP	1-10	101-125	0.521	0	-	-	3.1
TTL	C-1	HFPK	1-10	176-200	0.687	3	2.2	4.4	8.0
	C-1	HFPK	1-10	201-225	0.830	2	0.99	2.4	5.2
	C-1	HFPK	1-10	226-250	0.380	12	24.	32.	42.
	C-1	HFPK	1-10	251-275	0.170	0	-	-	-
	N	HDIP	1-10	101-125	3.491	5	0.89	1.4	2.3
	N	HDIP	11-25	101-125	3.477	7	1.0	2.0	2.9
	N	HDIP	26-50	101-125	2.264	0	-	-	0.71
	N	HDIP	51-75	51-75	0.050	0	-	-	-
	N	HDIP	51-75	101-125	1.185	0	-	-	1.4
	N	PDIP	1-10	26-50	7.700	123	15.	16.	17.
	N	PDIP	1-10	51-75	0.301	1	0.74	3.3	10.
	N	PDIP	1-10	101-125	0.817	2	1.0	2.5	5.2
	N	PDIP	11-25	51-75	0.100	2	-	-	-
	N	PDIP	11-25	101-125	0.731	1	0.31	1.4	4.1
	N	PDIP	26-50	51-75	0.090	2	-	-	-
	N	PDIP	26-50	101-125	0.161	1	-	-	-
	N	PDIP	51-75	51-75	0.015	0	-	-	-
	N	PDIP	51-75	101-125	0.042	0	-	-	-
	N	HFPK	1-10	26-50	1.150	36	27.	31.	37.
	N	HFPK	1-10	51-75	0.015	0	-	-	-
	N	HFPK	1-10	101-125	2.373	4	0.97	1.7	2.8
	N	HFPK	11-25	101-125	3.894	1	0.057	0.26	0.77

TABLE 19: GENERIC FAILURE RATES
REVERSE BIAS LIFE TESTS (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _J (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
TTL (cont'd)	N	HFPK	11-25	126-150	0.315	0	-	-	-
	N	HFPK	26-50	101-125	0.967	2	0.85	2.1	4.4
	N	HFPK	51-75	101-125	0.746	1	0.30	1.3	4.0

TABLE 20: GENERIC FAILURE RATES
STATIC FORWARD BIAS LIFE TESTS

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
CMOS	N	HDIP	1-10	101-125	0.762	1	0.29	1.3	3.9
	N	HDIP	1-10	126-150	0.076	0	-	-	-
	N	HDIP	1-10	176-200	0.002	0	-	-	-
	N	PDIP	1-10	76-100	0.174	0	-	-	-
PMOS	N	HDIP	26-50	151-175	0.133	0	-	-	-
	N	PDIP	26-50	151-175	0.025	0	-	-	-
	N	HFPK	1-10	126-150	0.231	0	-	-	-
	N	HDIP	1-10	101-125	4.494	4	0.51	0.89	1.5
DTL	N	HDIP	1-10	176-200	0.148	0	-	-	-
	N	HDIP	1-10	201-225	0.104	14	-	-	-
ECL	N	HDIP	1-10	226-250	0.265	60	202.	226.	255.
	N	HDIP	1-10	251-275	0.061	24	-	-	-
	N	HDIP	11-25	101-125	1.180	1	0.19	0.85	2.5
	N	HDIP	11-25	126-150	0.434	0	-	-	-
	N	HDIP	11-25	151-175	0.787	1	0.28	1.3	3.8
	N	HDIP	11-25	176-200	0.200	26	108.	130.	156.
	N	PDIP	1-10	101-125	0.592	0	-	-	-
	N	PDIP	11-25	101-125	0.859	1	0.26	1.2	2.7
	N	PDIP	51-75	101-125	0.090	0	-	-	-
	N	HFPK	1-10	101-125	1.106	1	0.20	0.90	2.7
HTTL	B-1	HDIP	1-10	126-150	0.502	0	-	-	-
	B-1	HDIP	11-25	126-150	0.179	0	-	-	-
	B-1	HFPK	1-10	126-150	0.253	0	-	-	-
	B-1	HFPK	11-25	126-150	0.147	0	-	-	-
L TTL	N	HDIP	11-25	126-150	0.045	0	-	-	-
	N	PDIP	1-10	126-150	0.045	0	-	-	-
	C-1	HDIP	26-50	126-150	0.076	0	-	-	-
	N	PDIP	1-10	126-150	0.054	2	-	-	-
STTL	N	PDIP	1-10	126-150	0.100	0	-	-	-
	N	PDIP	1-10	151-175	35.280	0	-	-	-
LSTTL	N	HDIP	1-10	101-125	0.029	0	-	-	-
	N	PDIP	1-10	101-125	0.032	0	-	-	-

TABLE 20: GENERIC FAILURE RATES
STATIC FORWARD BIAS LIFE TESTS (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
TTL	B-1	HDIP	1-10	126-150	0.358	1	0.62	2.8	8.4
	B-1	HDIP	11-25	126-150	0.717	0	-	-	2.2
	B-1	HDIP	26-50	126-150	0.354	3	4.3	8.5	16.
	B-1	HDIP	51-75	151-175	0.223	2	3.7	9.0	19.
	B-1	HFPK	11-25	126-150	0.219	1	-	-	-
	C-1	HDIP	1-10	126-150	0.105	1	-	-	-
	C-1	HDIP	26-50	151-175	0.261	0	-	-	-
	C-1	HDIP	51-75	151-175	0.182	0	-	-	-
	N	HDIP	1-10	76-100	3.679	4	0.62	1.1	1.8
	N	PDIP	1-10	126-150	1.525	7	3.1	4.6	6.7
	N	HFPK	1-10	126-150	0.254	1	0.88	3.9	12.
	N	HFPK	1-10	201-225	0.064	0	-	-	-

TABLE 21: GENERIC FAILURE RATES
STORAGE LIFE TESTS

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
CMOS	C-1	HDIP	1-10	201-225	0.112	7	-	-	-
	N	HDIP	1-10	126-150	0.121	0	-	-	-
	N	HDIP	11-25	126-150	0.110	0	-	-	-
	N	HDIP	26-50	126-150	0.055	0	-	-	-
	N	PDIP	1-10	126-150	0.231	0	-	-	-
	A-2	HFPK	1-10	126-150	0.930	0	-	-	1.7
	B-1	HDIP	1-10	126-150	0.034	0	-	-	-
	B-1	HFPK	1-10	126-150	0.194	0	-	-	-
	B-2	HDIP	1-10	126-150	0.177	0	-	-	-
	B-2	HFPK	1-10	126-150	0.112	1	-	-	-
DTL	B-2	CAN	1-10	126-150	0.090	0	-	-	-
	B-2	CAN	11-25	126-150	0.011	0	-	-	-
	C-1	HDIP	1-10	126-150	3.120	2	0.26	0.64	1.4
	C-1	HFPK	1-10	126-150	1.986	1	0.11	0.50	1.5
	C-2	HDIP	1-10	126-150	0.104	0	-	-	-
	N	HDIP	1-10	126-150	1.689	2	0.49	1.2	2.5
	N	HDIP	11-25	126-150	0.025	0	-	-	-
	N	HDIP	26-50	126-150	0.085	0	-	-	-
	N	PDIP	1-10	126-150	6.299	5	0.49	0.79	1.3
	N	HFPK	1-10	101-125	0.208	0	-	-	-
ECL	N	HFPK	1-10	126-150	2.349	1	0.095	0.43	1.3
	N	HFPK	1-10	151-175	0.015	0	-	-	-
	N	CAN	1-10	126-150	0.666	0	-	-	2.4
	N	HDIP	1-10	101-125	0.419	0	-	-	-
	N	HDIP	1-10	126-150	1.723	1	0.13	0.58	1.7
	N	HDIP	1-10	151-175	0.117	0	-	-	-
	N	HDIP	1-10	176-200	0.177	0	-	-	-
	N	HDIP	1-10	226-250	0.419	3	3.7	7.2	13.
	N	HDIP	1-10	276-300	0.215	1	-	-	-
	N	HDIP	11-25	126-150	0.372	0	-	-	-
	N	HDIP	11-25	226-250	0.070	0	-	-	-
	N	HDIP	11-25	276-300	0.162	1	-	-	-

TABLE 21: GENERIC FAILURE RATES
STORAGE LIFE TESTS (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
ECL (cont'd)	N	HDIP	26-50	126-150	0.092	0	-	-	-
	N	HDIP	51-75	276-300	0.049	1	-	-	-
	N	HFPK	1-10	126-150	0.038	0	-	-	-
	N	HFPK	1-10	276-300	0.032	0	-	-	-
	B-1	HDIP	1-10	126-150	0.561	2	1.5	3.6	7.6
	B-1	HDIP	11-25	126-150	0.080	0	-	-	-
	B-1	HFPK	1-10	126-150	0.303	1	0.74	3.3	9.9
	B-1	HFPK	11-25	126-150	0.025	0	-	-	-
	B-2	HFPK	1-10	126-150	0.055	0	-	-	-
	C-1	HDIP	1-10	126-150	0.089	0	-	-	-
HTTL	C-2	HDIP	1-10	126-150	0.215	0	-	-	-
	C-2	HDIP	11-25	126-150	0.033	0	-	-	-
	N	HDIP	1-10	126-150	0.222	0	-	-	-
	N	HDIP	11-25	126-150	0.038	0	-	-	-
	N	PDIP	1-10	126-150	0.490	1	0.46	2.0	6.1
	N	PDIP	11-25	126-150	0.072	1	-	-	-
	N	HFPK	1-10	126-150	0.080	0	-	-	-
	N	HFPK	11-25	126-150	0.077	1	-	-	-
	X	HDIP	1-10	126-150	0.504	1	0.44	2.0	5.9
	X	HDIP	11-25	126-150	0.185	1	-	-	-
	B-1	HDIP	1-10	126-150	0.182	0	-	-	-
	B-1	HDIP	11-25	126-150	0.077	0	-	-	-
	B-1	HFPK	1-10	126-150	0.131	0	-	-	-
	B-1	HFPK	11-25	126-150	0.022	0	-	-	-
	C-1	HDIP	26-50	126-150	0.038	0	-	-	-
	N	HDIP	1-10	126-150	0.052	0	-	-	-
	N	HDIP	1-10	276-300	0.062	0	-	-	-
	N	HDIP	11-25	126-150	0.222	0	-	-	-
	N	HDIP	26-50	126-150	0.074	0	-	-	-
	N	HDIP	51-75	126-150	0.080	0	-	-	-
LTTL	N	PDIP	1-10	126-150	0.511	1	0.39	1.1	5.2
	N	PDIP	11-25	126-150	0.092	0	-	-	-

TABLE 21: GENERIC FAILURE RATES
STORAGE LIFE TESTS (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
LTL (cont'd)	N	PDIP	51-75	126-150	0.046	0	-	-	-
	N	HFK	1-10	126-150	2.290	0	-	-	0.70
	N	HFK	26-50	126-150	0.074	0	-	-	-
	N	HFK	51-75	126-150	0.017	0	-	-	-
STTL	N	HDIP	1-10	126-150	0.106	0	-	-	-
	N	HDIP	1-10	226-250	0.105	0	-	-	-
	N	HDIP	1-10	276-300	0.041	0	-	-	-
	N	HDIP	11-25	226-250	0.105	4	-	-	-
LSTTL	N	HDIP	11-25	276-300	0.041	2	-	-	-
	N	PDIP	1-10	126-150	0.680	6	5.7	8.8	13.
	N	PDIP	11-25	126-150	0.138	0	-	-	-
	N	HDIP	1-10	126-150	2.599	2	0.32	0.77	1.6
	N	HDIP	1-10	226-250	0.070	0	-	-	-
	N	HDIP	1-10	276-300	0.027	0	-	-	-
	N	HDIP	11-25	226-250	0.053	0	-	-	-
	N	HDIP	11-25	276-300	0.068	1	-	-	-
	N	PDIP	1-10	126-150	0.617	1	0.36	1.6	4.9
	N	PDIP	11-25	126-150	0.092	0	-	-	-
	N	PDIP	51-75	126-150	0.046	0	-	-	-
TTL	B-1	HDIP	1-10	126-150	2.096	5	1.5	2.4	3.8
	B-1	HDIP	11-25	126-150	1.142	1	0.20	0.88	2.6
	B-1	HDIP	26-50	126-150	0.352	0	-	-	-
	B-1	HDIP	51-75	126-150	0.038	0	-	-	-
	B-1	HFK	1-10	126-150	1.938	1	0.12	0.51	1.5
	B-1	HFK	11-25	126-150	0.609	0	-	-	2.6
	B-1	HFK	26-50	126-150	0.064	0	-	-	-
	B-1	HFK	51-75	126-150	0.082	0	-	-	-
	B-2	HDIP	1-10	126-150	0.360	0	-	-	-
	B-2	HDIP	11-25	126-150	0.122	0	-	-	-
	B-2	HDIP	26-50	126-150	0.105	0	-	-	-
	B-2	HFK	1-10	126-150	0.570	0	-	-	2.8
	B-2	HFK	11-25	126-150	0.272	0	-	-	-

TABLE 21: GENERIC FAILURE RATES
STORAGE LIFE TESTS (CONTINUED)

OPERATIONAL TYPE	SCREEN CLASS	PACKAGE TYPE	COMPLEXITY (GATES)	T _j (°C)	PART HOURS (10 ⁶)	QUANTITY OF FAILURES	FAILURE RATES (F/10 ⁶ HOURS)		
							20% C.L.	POINT ESTIMATE	80% C.L.
TTL (cont'd)	B-2	HFPK	26-50	126-150	0.045	0	-	-	-
	C-1	HDIP	1-10	126-150	1.089	1	0.20	0.92	2.8
	C-1	HDIP	11-25	126-150	0.414	1	0.54	2.4	7.2
	C-1	HDIP	26-50	126-150	0.165	0	-	-	-
	C-1	HDIP	51-75	126-150	0.055	0	-	-	-
	C-1	HFPK	1-10	126-150	0.362	0	-	-	-
	C-1	HFPK	1-10	276-300	0.090	0	-	-	-
	C-2	HDIP	1-10	126-150	0.108	0	-	-	-
	C-2	HDIP	26-50	126-150	0.022	0	-	-	-
	C-2	HFPK	1-10	126-150	0.111	0	-	-	-
	C-2	HFPK	51-75	126-150	0.055	0	-	-	-
	N	HDIP	1-10	126-150	6.009	7	0.79	1.2	1.7
	N	HDIP	11-25	126-150	2.139	4	1.1	1.9	3.1
	N	HDIP	26-50	126-150	0.476	0	-	-	-
	N	HDIP	51-76	126-150	0.637	1	0.35	1.6	4.7
	N	PDIP	1-10	126-150	11.960	19	1.3	1.6	2.0
	N	PDIP	11-25	126-150	1.564	9	4.1	5.8	8.0
	N	PDIP	26-50	126-150	0.515	0	-	-	3.1
	N	PDIP	51-75	126-150	0.223	0	-	-	-
	N	HFPK	1-10	126-150	1.475	0	-	-	1.1
	N	HFPK	11-25	126-150	1.689	0	-	-	0.95
	N	HFPK	26-50	126-150	0.505	0	-	-	3.2
	N	HFPK	51-75	126-150	0.639	0	-	-	2.5
	X	HDIP	1-10	126-150	0.275	0	-	-	-
	X	HDIP	11-25	126-150	0.389	0	-	-	-
	X	HDIP	26-50	126-150	0.156	0	-	-	-
	X	HDIP	51-75	126-150	0.038	0	-	-	-
	X	HFPK	1-10	126-150	0.007	0	-	-	-
	X	CAN	26-50	126-150	0.077	0	-	-	-

**MICROCIRCUIT DEVICE RELIABILITY
DIGITAL FAILURE RATE DATA**

SECTION 3

DIGITAL DEVICE DATA - DETAILED LISTINGS

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SECTION 3

DIGITAL DEVICE DATA - DETAILED LISTINGS

Introduction

The data presented in Section 3 have been extracted from reports dealing with digital microcircuit, SSI and MSI complexity devices. LSI random logic and memory devices are featured under separate cover, entitled Memory/LSI Data. The data within this section include field experience, life test results, and reliability demonstration and equipment checkout test results. The calendar time period for the listed data entries in this section is 1975 to the present. The listings are grouped according to a two level hierarchy, arranged first by operational type and next by device manufacturer (sorted alphabetically for each operational type category). Part numbers are listed in a left-hand justified numerical format and within each identical part number classification the entries are further sorted in order of decreasing screen class (A-1 down to none). Due to the left-hand justification process, care should be taken when referencing a specific part number (see Usage Guide).

The information presented may be used to generate representative failure rates for various device classifications. All of the details necessary to perform an MIL-HDBK-217C reliability prediction are provided within each line entry. The means for failure rate analysis based upon considerations such as package type, operational type, etc., are also available. The use of this format facilitates failure comparisons between reliability demonstration test results and actual field experience, or between life test results and subsequent field performance, thereby providing a valuable source of back-up information for testing programs. The user is cautioned, however, that the data contained herein may not be used in lieu of other contractually cited references and/or specifications.

The listed data furnish an indication of the anticipated performance for various digital SSI/MSI microcircuit part types. As always, the user must take into account the base population of the device being considered, as well as the extent of testing (duration in hours, operating conditions, etc.) involved, prior to drawing any definitive conclusions about his own experiences.

A Usage Guide follows which should be studied by the reader prior to consulting the detailed listings. This guide illustrates the format and defines the terminology and abbreviations utilized throughout the listings which follow. Additional information may, again, be obtained by contacting the Reliability Analysis Center directly.

USAGE GUIDE

The descriptions given below define the codes and format used in the detailed listings of this section. The circled numbers shown on the tabulation form below refer to the explanatory text which follows. A few minutes spent familiarizing oneself with the information provided below will aid the user in the interpretation of the data contained herein.

MOTOROLA SEMI CHOS		MANUFACTURER ① OPERATIONAL TYPE ②				RELIABILITY ANALYSIS CENTER					
PART NO. ③	DEVICE FUNCTION ④	SCRN ⑥ CLASS	PACKAGE/ PINS ⑧	JCT. ⑩ TEMP.	EQUIP. TYPE ⑪	DATA ⑬ CLASS.	STRESS LEVEL ⑮	#TESTED/ #FAILED ⑯	MPEF REPORT NO. ⑰	QTY FAILED ⑱	
	CIRCUIT FUNCTION ⑤	NO. ⑦ GATES	TEST DATE ⑨		APPL. ENV. ⑫	TEST TYPE ⑭		PART HOURS ⑰			

- ① MANUFACTURER. Denotes the manufacturer of the device. Manufacturers are listed alphabetically within each operational type. The term "VARIOUS" is used to indicate parts produced by two or more manufacturers, where the actual manufacturer is not known. This term would most often be used where the second sourcing of equipment level parts occurs.
- ② OPERATIONAL TYPE. Reflects the technology of the device (CMOS, PMOS, DTL, ECL, HINIL, IIL, RTL, HTTL, LTTL, LSTTL, STTL, SUHL, TTL).
- ③ PART NO. This is the listing of the device part number, neglecting package and temperature rating prefixes/suffixes. Part numbers are arranged in left-hand justified numerical order. Thus a sequence of the following sort is possible: 5408, 54107, 5411, 74160, 8162.
- ④ DEVICE FUNCTION. Provides the basic intended generic application of the referenced PART NO.

USAGE GUIDE (Cont'd)

⑤ CIRCUIT FUNCTION. Provides additional detail concerning the parameters of the device function.

⑥ SCREEN CLASS. Screen class is listed in order of decreasing quality within each part number category. These screening codes are of the same basic form as found in MIL-HDBK-217C, with slight variations.

A-1	(Renamed S-1) MIL-STD-883B, Method 5004, Class S
A-2	(Renamed S-2) Vendor Equivalent of A-1
JB	MIL-M-38510 Class B
B-1	MIL-STD-883B, Method 5004, Class B
B-1/JB	Represents combination of JAN Class B and B-1 level parts
B-2	Vendor Equivalent of B-1
B-2/N	
B-2 to N	Reflects procurement practice of manufacturer
B-2/None	
C-1	MIL-STD-883B, Method 5004, Class C
C-2	Vendor Equivalent of C-1
D	Hermetic Package, no screening beyond normal vendor Q.C.
D-1	Non-Hermetic Package, no screening beyond normal vendor Q.C.
N or None	No screening beyond normal vendor Q.C. (Class D or D-1)
X	Screen Class N with additional screening
NR or N/R	Not Reported

⑦ NO. GATES. The MIL-HDBK-217C complexity (number of gates per part) is derived from logic diagrams or, where necessary, by dividing the number of transistors by four (see MIL-HDBK-217C, Section 2.1-1). If the gate complexity is unknown, the field will appear as a blank.

USAGE GUIDE (Cont'd)

- ⑧ PACKAGE/PINS. Indicates the generic package construction and the number of pins per package.

<u>PACKAGE PREFIXES</u>		<u>PACKAGE SUFFIXES</u>	
H	Hermetic	CAN	Metal Can
P	Plastic (or other Nonhermetic Package)	DIP	Dual-In-Line Package
		FPK	Flat Package
N/R	Not Reported	N/R	Not Reported

- ⑨ TEST DATE. The test date indicates the reported final date of test duration. Blanks indicate unknown or unreported dates. Testing completed prior to June, 1977, is excluded from the detailed listings of this publication.

- ⑩ JCT.* TEMP. Junction Temperature (T_j). The asterisk is included to remind the user that the junction temperature is based upon the estimated ambient conditions and must, therefore, be considered an estimate itself. This quantity, expressed in degrees centigrade ($^{\circ}\text{C}$), is calculated from the highest ambient temperature listed in "Stress Level" as follows:

$$T_j = T_A + \theta_{jA} \cdot P_{\text{TYP}}$$

where:

T_j = Junction Temperature ($^{\circ}\text{C}$)

T_A = Ambient Temperature ($^{\circ}\text{C}$)

θ_{jA} = Junction-to-Ambient Thermal Resistance ($^{\circ}\text{C}/\text{watt}$)

P_{TYP} = Typical Power Dissipation (watts)

Where either the thermal resistance or the typical power dissipation values are not known, the estimates of MIL-HDBK-217C, pg. 2.1.5-3, were used to obtain T_j .

USAGE GUIDE (Cont'd)

- ⑪ EQUIP. TYPE. Equipment type entries pertain to the design application of the devices at the equipment level. This information in conjunction with the application environment, "APPL. ENV.," gives a good indication of the environmental and electrical stresses to which the devices were exposed.

COMB	Combinations of Equipments
COMM	Communications
COMP	Computer Equipment
DSPY	Instrumentation and Display
INTR	Interface Equipment
NR	Not Reported or Not Applicable
NAVG	Navigational Equipment
PROC	Digital Processors (Computation)
RADR	Radar Equipment

- ⑫ APPL. ENV. Application environment abbreviations are based upon the defined environmental factors of MIL-HDBK-217C, with some modifications.

AI	Airborne, Inhabited, Carrier Unknown
AIF	Airborne, Inhabited, Fighter
AIT	Airborne, Inhabited, Transport
AIU	Airborne, Inhabited/Uninhabited, Carrier Unknown
AU	Airborne, Uninhabited, Carrier Unknown
AUF	Airborne, Uninhabited, Fighter
AUT	Airborne, Uninhabited, Transport
GB	Ground, Benign, conditions as defined by MIL-HDBK-217C
GBC	Ground, Benign, Commercial Equipment
GF	Ground, Fixed
GM	Ground, Mobile
GT	Ground, Transportable (carried by vehicle)
N/R	Not Reported or Not Applicable (part level testing)

USAGE GUIDE (Cont'd)

- (13) DATA CLASS. Abbreviations in this field refer to the specific mode of testing or usage conditions for the components listed.

CHECK	Equipment Level Checkout Testing
FIELD	Equipment Level Field Experience
LIFE	Long Term Part Level Life Test (>250 hours per part)
RELD	Equipment Level Reliability Demonstration Testing

- (14) TEST TYPE. Test types within the specific mode of testing are listed below.

EM	Electrical Measurements
OP CNST	Constant Operation Life Test
OP DYN	Dynamic Operation Life Test
OPERATE	Operational Equipment
REVB	Reverse Bias Life Test
RHRB	Humidity Test with Reverse Bias
STG LIFE	High Temperature Storage Life (non-operating)
TCVPC	Temperature Cycle, Vibration, and Power Cycle

- (15) STRESS LEVELS. Stress levels complement "Test Type" and "Application Environment" (Fields (12) and (14)) by relating the magnitudes of associated stresses in test or field environments. Abbreviations used are as follows:

"ATMOS"	-- Pressure measure in atmospheres
"AXES"	-- As defined in MIL-STD-883A
"C"	-- Degrees temperature centigrade
"CY"	-- Number of cycles
"DEG"	-- Degrees
"E"	-- Each
"FLUOR"	-- Fluorocarbon

USAGE GUIDE (Cont'd)

⑮ STRESS LEVEL Cont'd)

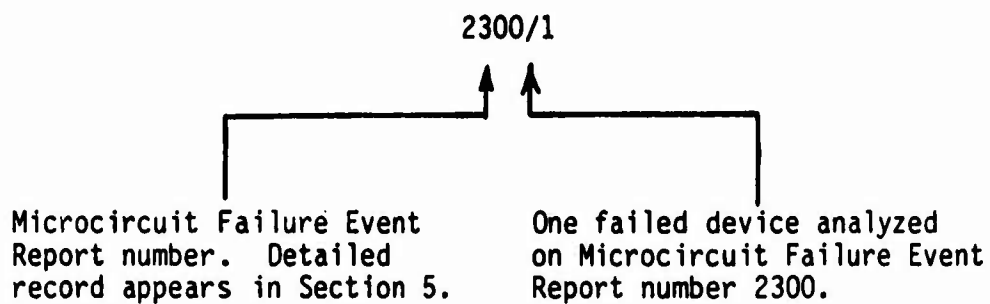
"G"	-- Gravitational constant
"GMS"	-- Grams
"GMS/MSQ"	-- Grams per square meter
"HE"	-- Helium
"HZ"	-- Hertz
"K"	-- Kilo (1000's)
"MIN"	-- Minutes
"MINOIL"	-- Mineral oil (Ethylene Glycol)
"MSEC"	-- Milliseconds
"OZ"	-- Ounces
"%"	-- Percent (usually percent rated power applied)
"PSIA"	-- Pounds per square inch, gauge (PSIG = PSIA + 15 at sea level)
"RADIS"	-- Radioisotope
"RH"	-- Relative humidity
"SEC"	-- Second
"V.CYC"	-- Voltage cycle (followed by the percent rated voltages applied)
"X"	-- Times (magnification)

⑯ #TESTED/#FAILED. The number tested refers to the total quantity of components under life test or the total number of components per equipment/system times the number of systems in the field based on a static configuration. The number failed represents simply the total number of components which failed in the test or operational period.

⑰ PART HOURS. The total number of part hours for the devices under operation, given usually by the product of the number of devices tested and the test or operational time frame.

USAGE GUIDE (Cont'd)

- ⑮ MFEF REPORT NO./QTY FAILED. This column contains a Microcircuit Failure Event File cross reference number followed by the quantity of failed devices contained in each numbered report record. For example: 2300/1 indicates an MFEF record exists in Section 5 containing failure description on one failed device. See below.



DIGITAL DEVICE DATA

MOTOROLA SEMI
CMOSMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
14011A	GATE	NONE	N/R N/R	0	41C	DSPY GBC	FIELD	040C 55XPWR	201 / 0 261,300
14015B	SHIFT REG	D	H DIP	16	53C	DSPY GBC	FIELD	040C 55XPWR	916 / 0 1,190,800
14015B	SHIFT REG	D-1	P DIP	16	54C	DSPY GBC	FIELD	040C 55XPWR	42 / 0 54,600
14017	COUNTER DECADE	D-1	P DIP	16	43C	DSPY GBC	FIELD	040C 55XPWR	19 / 0 24,700
14017B	COUNTER DECADE	NONE	N/R N/R	0	45C	DSPY GBC	FIELD	040C 55XPWR	764 / 0 993,200
14035	SHIFT REG	D-1	P DIP	16	53C	DSPY GBC	FIELD	040C 55XPWR	6264 / 0 8,143,200
14035	SHIFT REG	D-1	P DIP	16	53C	DSPY GBC	FIELD	040C 55XPWR	15606 / 0 20,287,800
14040B	COUNTER BINARY	D	H DIP	16	52C	DSPY GBC	FIELD	040C 55XPWR	916 / 0 1,190,800
14528	FLIP-FLOP MONOSTABLE	D-1	P DIP	16	131C	NR N/R	LIFE OP DYN	125C	250 / 2 249,216
						LIFE EN			747 / 0
14539B	MULTIPLEXER	NONE	N/R N/R	0	45C	DSPY GBC	FIELD	040C 55XPWR	191 / 0 248,300

NATIONAL SEMI
CMOSMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
4009	BUFFER	D-1	P DIP	16	42C	DSPY GBC	FIELD	040C 55XPWR	3943 / 0 5,125,900
4009	BUFFER	D-1	P DIP	16	42C	DSPY GBC	FIELD	040C 55XPWR	4332 / 1 5,631,600
4010	BUFFER	D-1	P DIP	16	42C	DSPY GBC	FIELD	040C 55XPWR	1832 / 0 2,381,600
4010	BUFFER	D-1	P DIP	16	42C	DSPY GBC	FIELD	040C 55XPWR	3317 / 0 4,312,100
4019	GATE	D-1	P DIP	16	43C	DSPY GBC	FIELD	040C 55XPWR	13024 / 0 16,931,200
4019	GATE	D-1	P DIP	16	43C	DSPY GBC	FIELD	040C 55XPWR	17240 / 0 22,412,000
74C14	INVERTER SCHMITT TRIGGER	D	H DIP	14	42C	DSPY GBC	FIELD	040C 55XPWR	413 / 0 536,900

DIGITAL DEVICE DATA

NATIONAL SEMI
CMOSMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
74C14	INVERTER SCHMITT TRIGGER	D 6	H DIP 14 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	542 / 1 704,600	
74C151	MULTIPLEXER	D-1 20	P DIP 16 77/78	59C	DSPY GBC	FIELD	040C 55XPWR:	272 / 0 353,600	
74C151	MULTIPLEXER	D-1 20	P DIP 16 78/79	59C	DSPY GBC	FIELD	040C 55XPWR:	461 / 0 599,300	
74C154	DECODER/DEMULTPLX	D-1 48	P DIP 24 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	63 / 0 81,900	
74C157	MULTIPLEXER	D-1 19	P DIP 16 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	12504 / 1 16,255,200	
74C157	MULTIPLEXER	D-1 19	P DIP 16 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	10392 / 3 13,509,600	
74C160	COUNTER DECADE	D-1 51	P DIP 16 77/78	52C	DSPY GBC	FIELD	040C 55XPWR:	1239 / 0 1,610,700	
74C160	COUNTER DECADE	D-1 51	P DIP 16 78/79	52C	DSPY GBC	FIELD	040C 55XPWR:	1626 / 0 1,113,800	
74C161	COUNTER BINARY	D-1 49	P DIP 16 77/78	52C	DSPY GBC	FIELD	040C 55XPWR:	1050 / 0 1,365,000	
74C161	COUNTER BINARY	D-1 49	P DIP 16 78/79	52C	DSPY GBC	FIELD	040C 55XPWR:	4483 / 6 5,827,900	
74C163	COUNTER BINARY	D-1 53	P DIP 16 78/79	52C	DSPY GBC	FIELD	040C 55XPWR:	2168 / 0 2,818,400	
74C164	SHIFT REG	D-1 61	P DIP 14 77/78	57C	DSPY GBC	FIELD	040C 55XPWR:	168 / 0 218,400	
74C164	SHIFT REG	D-1 61	P DIP 14 78/79	57C	DSPY GBC	FIELD	040C 55XPWR:	1546 / 0 2,009,800	
74C173	FLIP-FLOP D	D-1 45	P DIP 16 77/78	58C	DSPY GBC	FIELD	040C 55XPWR:	6516 / 2 8,470,800	
74C173	FLIP-FLOP D	D-1 45	P DIP 16 78/79	58C	DSPY GBC	FIELD	040C 55XPWR:	10612 / 2 13,795,600	
74C174	FLIP-FLOP D	D-1 37	P DIP 16 78/79	58C	DSPY GBC	FIELD	040C 55XPWR:	8068 / 3 10,488,400	
74C175	FLIP-FLOP D	D-1 52	P DIP 16 77/78	53C	DSPY GBC	FIELD	040C 55XPWR:	1119 / 0 1,454,700	
74C175	FLIP-FLOP D	D-1 52	P DIP 16 78/79	53C	DSPY GBC	FIELD	040C 55XPWR:	3066 / 1 3,985,800	
74C192	COUNTER DECADE	D-1 56	P DIP 16 77/78	55C	DSPY GBC	FIELD	040C 55XPWR:	150 / 0 195,000	
74C192	COUNTER DECADE	D-1 56	P DIP 16 78/79	55C	DSPY GBC	FIELD	040C 55XPWR:	1600 / 0 2,080,000	
74C221	FLIP-FLOP MONOSTABLE	D 20	H DIP 16 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	413 / 0 536,900	
74C221	FLIP-FLOP MONOSTABLE	D 20	H DIP 16 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	542 / 0 704,600	
74C221	FLIP-FLOP MONOSTABLE	D-1 20	P DIP 16 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	686 / 0 891,800	

DIGITAL DEVICE DATA

NATIONAL SEMI CMOS		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER			
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
74C221	FLIP-FLOP MONOSTABLE	D-1 20	P DIP 16: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	6107 / 2 7,939,100:	
74C30	GATE	D-1 1	P DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	413 / 0 536,900:	
74C30	GATE	D-1 1	P DIP 14: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	542 / 1 704,600:	
74C42	DECODER BCD/DECIMAL	D-1 31	P DIP 16: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR:	1404 / 0 1,825,200:	
74C74	FLIP-FLOP D	D 30	H DIP 14: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR:	373 / 0 484,900:	
74C74	FLIP-FLOP D	D 30	H DIP 14: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR:	1022 / 0 1,328,600:	
74C83	ADDER BINARY	D 39	H DIP 16: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	1119 / 0 1,454,700:	
74C83	ADDER BINARY	D 39	H DIP 16: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	3066 / 0 3,295,800:	
74C90	COUNTER DECADE	D-1 36	P DIP 14: 78/79	57C	DSPY GBC	FIELD	040C 55XPWR:	480 / 0 624,000:	
74C906	BUFFER	D-1 6	P DIP 14: 78/79	53C	DSPY GBC	FIELD	040C 55XPWR:	38 / 0 49,400:	
74C922	ENCODER	D-1 N/R	P DIP 18: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR:	188 / 0 244,400:	
80C97	BUFFER	D 8	H DIP 16: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	3374 / 0 4,386,200:	
80C97	BUFFER	D 8	H DIP 16: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	16291 / 1 21,178,300:	
80C97	BUFFER	D-1 8	P DIP 16: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	3119 / 2 4,054,700:	
80C97	BUFFER	D-1 8	P DIP 16: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	1609 / 0 2,091,700:	

RCA CMOS		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
: PART : NO.	: DEVICE : FUNCTION	: SCR.N. : CLASS	: PACKAGE/ : PINS	: JCT.* : TEMP. :	: EQUIP. : TYPE	: DATA : CLASS. :	: STRESS : LEVEL	: #TESTED/ : #FAILED	: MFEF REPORT NO.: : /QTY FAILED	
:	: CIRCUIT : FUNCTION	: NO. : GATES	: TEST : DATE	:	: APPL. : ENV.	: TEST : TYPE	:	: PART : HOURS	:	
: 4002A	: GATE	: D-1 : 2	: P DIP 14: : 77/78	: 42C	: DSPY : GBC	: FIELD	: 040C 55XPWR:	: 602 / 0 : 782,600:	:	
: 4002A	: GATE	: D-1 : 2	: P DIP 14: : 78/79	: 42C	: DSPY : GBC	: FIELD	: 040C 55XPWR:	: 7202 / 1 : 9,362,600:	:	
: 4007A	: INVERTER	: D-1 : 3	: P DIP 14: : 77/78	: 42C	: DSPY : GBC	: FIELD	: 040C 55XPWR:	: 4769 / 0 : 6,199,700:	:	

DIGITAL DEVICE DATA

RCA CMOS		MANUFACTURER : OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MTEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
4007A	INVERTER	D-1 3	P DIP 14 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	4406 / 2 5,727,800		
4012A	GATE	D-1 2	P DIP 14 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	1963 / 0 2,551,900		
4012A	GATE	D-1 2	P DIP 14 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	2975 / 1 3,867,500		
4017A	COUNTER DECADE	D-1 47	P DIP 16 77/78	49C	DSPY GBC	FIELD	040C 55XPWR	761 / 1 989,300		
4017A	COUNTER DECADE	D-1 47	P DIP 16 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	3508 / 0 4,560,400		
4018A	COUNTER	D 57	H DIP 16 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	413 / 0 536,900		
4018A	COUNTER	D 57	H DIP 16 78/79	49C	DSPY GBC	FIELD	040C 55XPWR	542 / 0 704,600		
4024A	COUNTER BINARY	D 81	H DIP 14 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	8152 / 4 10,597,600		
4024A	COUNTER BINARY	D 81	H DIP 14 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	8512 / 1 11,065,600		
4025A	GATE	B-1/JB 3	H DIP 14 76/77	56C	COMM AIF	FIELD		75 / 0 51,135		
4027A	FLIP-FLOP JK	D-1 30	P DIP 16 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	16005 / 4 20,806,500		
4027A	FLIP-FLOP JK	D-1 30	P DIP 16 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	32193 / 4 41,850,900		
4029A	COUNTER	D 64	H DIP 16 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	4130 / 1 5,369,000		
4029A	COUNTER	D 64	H DIP 16 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	5711 / 4 7,424,300		
4029A	COUNTER	D-1 64	P DIP 16 77/78	46C	DSPY GBC	FIELD	040C 55XPWR	237 / 0 308,100		
4029A	COUNTER	D-1 64	P DIP 16 78/79	46C	DSPY GBC	FIELD	040C 55XPWR	1605 / 0 2,086,500		
4030A	GATE	D-1 4	P DIP 14 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	1058 / 0 1,375,400		
4030A	GATE	D-1 4	P DIP 14 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	2596 / 0 3,374,800		
4035A	SHIFT REG	D-1 53	P DIP 16 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	2727 / 1 3,545,100		
4035A	SHIFT REG	D-1 53	P DIP 16 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	1758 / 0 2,285,400		
4041A	BUFFER TRUE COMPLEMENT	D-1 12	P DIP 14 77/78	43C	DSPY GBC	FIELD	040C 55XPWR	5288 / 2 6,874,400		
4041A	BUFFER TRUE COMPLEMENT	D-1 12	P DIP 14 78/79	43C	DSPY GBC	FIELD	040C 55XPWR	6897 / 0 8,966,100		
4043A	LATCH RS	D-1 18	P DIP 16 77/78	43C	DSPY GBC	FIELD	040C 55XPWR	1910 / 1 2,483,000		

DIGITAL DEVICE DATA

RCA CMOS		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO.: /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
4043A	LATCH RS	D-1 18	P DIP 16: 78/79	43C	DSPY GBC	FIELD	040C 55XPWR:	2968 / 0 3,858,400			
4044A	LATCH RS	D 18	H DIP 16: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR:	413 / 0 536,900			
4044A	LATCH RS	D 18	H DIP 16: 78/79	43C	DSPY GBC	FIELD	040C 55XPWR:	542 / 0 704,600			
4047	FLIP-FLOP MONOSTABLE	D-1 44	P DIP 14: 77/78	60C	DSPY GBC	FIELD	040C 55XPWR:	763 / 2 991,900			
4047	FLIP-FLOP MONOSTABLE	D-1 44	P DIP 14: 78/79	60C	DSPY GBC	FIELD	040C 55XPWR:	7040 / 3 9,152,000			
4059A	COUNTER PROGRAMMABLE	D N/R	H DIP 24: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR:	466 / 0 605,800			
4068B	GATE	D-1 1	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	126 / 0 163,800			
4069B	INVERTER	D-1 6	P DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	1256 / 0 1,632,800			
4069B	INVERTER	D-1 6	P DIP 14: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	13241 / 12 17,213,300			
4070B	GATE	D-1 4	P DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	13741 / 10 17,863,300			
4070B	GATE	D-1 4	P DIP 14: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	14647 / 9 19,041,100			
4071B	GATE	D-1 4	P DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	4 / 0 5,200			
4071B	GATE	D-1 4	P DIP 14: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	179 / 0 232,700			
4075B	GATE	D-1 3	P DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	688 / 1 894,400			
4075B	GATE	D-1 3	P DIP 14: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	1441 / 0 1,873,300			
4078B	GATE	D-1 14	P DIP 14: 78/79	43C	DSPY GBC	FIELD	040C 55XPWR:	3516 / 2 4,570,800			
4081B	GATE	D-1 4	P DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	8 / 0 10,400			
4555B	DECODER/DEMUTIPLEX	D 26	H DIP 16: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	1612 / 0 2,095,600			
4555B	DECODER/DEMUTIPLEX	D 26	H DIP 16: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	3114 / 1 4,048,200			
4556B	DECODER/DEMUTIPLEX	D 34	H DIP 16: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR:	413 / 0 536,900			
4556B	DECODER/DEMUTIPLEX	D 34	H DIP 16: 78/79	43C	DSPY GBC	FIELD	040C 55XPWR:	542 / 0 704,600			

DIGITAL DEVICE DATA

SOLID STATE SCIENTIFIC
CMOSMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
4011A	GATE	B-1/JB: 4	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	13498 / 0	368,804
4014A	SHIFT REG	B-1/JB: 55	H DIP 16: 77/79	80C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	7648 / 0	208,480
4014A	SHIFT REG	B-1/JB: 55	H DIP 16: 77/79	80C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	14020 / 0	387,840
4014A	SHIFT REG	B-1/JB: 55	H DIP 16: 77/79	80C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	26996 / 0	737,608
4049	CONVERTER BUFFER	B-1/JB: 6	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	13384 / 0	364,840
4049	CONVERTER BUFFER	B-1/JB: 6	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	24535 / 0	678,734
4049	CONVERTER BUFFER	B-1/JB: 6	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	26996 / 0	737,608

VARIOUS
CMOSMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
4001A	GATE	B-1/JB: 4	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	19437 / 0	531,666
4001A	GATE	B-1/JB: 4	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	5736 / 0	156,360
4001A	GATE	B-1/JB: 4	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	10515 / 0	290,886
4001A	GATE	B-1/JB: 4	H DIP 14: 76/77	56C	COMM AIF	FIELD		45 / 0	30,681
4001A	GATE	B-1/JB: 4	H DIP 14: 76/77	56C	COMM AIF	FIELD		30 / 0	12,573
4001A	GATE	B-1/JB: 4	H DIP 14: 76/77	56C	COMM AIF	FIELD		42 / 0	21,168
4001A	GATE	B-1/JB: 4	H DIP 14: 76/77	56C	COMM AIT	FIELD		57 / 1	57,993
4001A	GATE	D-1: 4	P DIP 14: 78/79	56C	COMM AIF	FIELD		300 / 0	92,664
4001A	GATE	D: 4	H DIP 14: 78/78	41C	PROC GP	FIELD	040C	2000 / 2	8,640,000
4001B	GATE	D-1: 4	P DIP 14: 77/78	41C	DSFY GBC	FIELD	040C 55XPWR	5998 / 0	7,797,400
4001B	GATE	D-1: 4	P DIP 14: 78/79	41C	DSFY GBC	FIELD	040C 55XPWR	22965 / 3	29,854,500

DIGITAL DEVICE DATA

VARIOUS
CMOSMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. # TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MYEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
4002A	GATE	B-1/JB: 2	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	6479 / 0	177,222
4002A	GATE	B-1/JB: 2	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	1912 / 0	52,120
4002A	GATE	B-1/JB: 2	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	3505 / 0	96,962
4002A	GATE	B-1/JB: 2	H DIP 14: 76/77	56C	COMM AIF	FIELD		15 / 0	10,227
4002A	GATE	B-1/JB: 2	H DIP 14: 76/77	56C	COMM AIF	FIELD		10 / 0	4,191
4002A	GATE	B-1/JB: 2	H DIP 14: 76/77	56C	COMM AIF	FIELD		14 / 0	7,056
4002A	GATE	B-1/JB: 2	H DIP 14: 76/77	56C	COMM AIT	FIELD		19 / 0	19,331
4002A	GATE	D 2	H DIP 14: 78/79	56C	COMM AIF	FIELD		100 / 0	30,888
4008A	ADDER FULL	B-1/JB: 58	H DIP 16: 77/79	80C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	12958 / 0	354,444
4008A	ADDER FULL	B-1/JB: 58	H DIP 16: 77/79	80C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	3824 / 0	104,240
4008A	ADDER FULL	B-1/JB: 58	H DIP 16: 77/79	80C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	7010 / 0	193,924
4008A	ADDER FULL	B-1/JB: 58	H DIP 16: 76/77	57C	COMM AIF	FIELD		30 / 0	20,454
4008A	ADDER FULL	B-1/JB: 58	H DIP 16: 76/77	57C	COMM AIF	FIELD		20 / 0	8,382
4008A	ADDER FULL	B-1/JB: 58	H DIP 16: 76/77	57C	COMM AIF	FIELD		28 / 0	14,112
4008A	ADDER FULL	B-1/JB: 58	H DIP 16: 76/77	57C	COMM AIT	FIELD		38 / 0	38,662
40098/80C98	BUFFER	D-1 8	P DIP 16: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	1612 / 0	2,095,600
40098/80C98	BUFFER	D-1 8	P DIP 16: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	4772 / 1	6,203,600
4011A	GATE	B-1/JB: 4	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	12958 / 0	354,444
4011A	GATE	B-1/JB: 4	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	1003 / 0	28,344
4011A	GATE	B-1/JB: 4	H DIP 14: 76/77	56C	COMM AIF	FIELD		45 / 0	30,681
4011A	GATE	B-1/JB: 4	H DIP 14: 76/77	56C	COMM AIF	FIELD		15 / 0	10,227
4011A	GATE	B-1/JB: 4	H DIP 14: 76/77	56C	COMM AIF	FIELD		30 / 0	20,454
4011A	GATE	B-1/JB: 4	H DIP 14: 76/77	56C	COMM AIF	FIELD		20 / 0	8,382

DIGITAL DEVICE DATA

VARIOUS
CMOS:MANUFACTURER
:OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

: PART NO. :	DEVICE FUNCTION :	SCRN. CLASS :	PACKAGE/ PINS :	JCT.* TEMP. :	EQUIP. TYPE :	DATA CLASS. :	STRESS LEVEL :	#TESTED/ #FAILED :	MFEF REPORT NO.: /QTY FAILED :
: : :	CIRCUIT FUNCTION :	NO. GATES :	TEST DATE :	: : :	APPL. ENV. :	TEST TYPE :	: : :	PART HOURS :	: : :
: 4011A :	: GATE :	: B-1/JB: 4 :	: H DIP 14: 76/77 :	: 56C :	: COMM AIF :	: FIELD :	: : :	: 10 / 0 : 4,191:	: : :
: 4011A :	: GATE :	: B-1/JB: 4 :	: H DIP 14: 76/77 :	: 56C :	: COMM AIF :	: FIELD :	: : :	: 42 / 0 : 21,168:	: : :
: 4011A :	: GATE :	: B-1/JB: 4 :	: H DIP 14: 76/77 :	: 56C :	: COMM AIF :	: FIELD :	: : :	: 28 / 0 : 14,112:	: : :
: 4011A :	: GATE :	: B-1/JB: 4 :	: H DIP 14: 76/77 :	: 56C :	: COMM AIF :	: FIELD :	: : :	: 56 / 0 : 28,224:	: : :
: 4011A :	: GATE :	: B-1/JB: 4 :	: H DIP 14: 76/77 :	: 56C :	: COMM AIT :	: FIELD :	: : :	: 38 / 0 : 38,662:	: : :
: 4011A :	: GATE :	: B-1/JB: 4 :	: H DIP 14: 76/77 :	: 56C :	: COMM AIT :	: FIELD :	: : :	: 38 / 0 : 38,662:	: : :
: 4011A :	: GATE :	: D 4 :	: H DIP 14: 78/79 :	: 56C :	: COMM AIF :	: FIELD :	: : :	: 100 / 0 : 30,888:	: : :
: 4011B :	: GATE :	: D-1 4 :	: P DIP 14: 77/78 :	: 41C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR: :	: 6257 / 0 : 8,134,100:	: : :
: 4011B :	: GATE :	: D-1 4 :	: P DIP 14: 78/79 :	: 41C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR: :	: 18590 / 4 : 24,167,000:	: : :
: 4013 :	: FLIP-FLOP D :	: D-1 24 :	: P DIP 14: 77/78 :	: 56C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR: :	: 1866 / 1 : 2,425,800:	: : :
: 4013 :	: FLIP-FLOP D :	: D-1 24 :	: P DIP 14: 78/79 :	: 56C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR: :	: 3762 / 0 : 4,890,600:	: : :
: 4013A :	: FLIP-FLOP D :	: B-1/JB: 24 :	: H DIP 14: 77/79 :	: 65C :	: COMM AI :	: CHECK TCVPC :	: -054C 055C 14CY 2 22HZ :	: 25916 / 0 : 708,888:	: : :
: 4013A :	: FLIP-FLOP D :	: B-1/JB: 24 :	: H DIP 14: 77/79 :	: 65C :	: COMM AI :	: CHECK TCVPC :	: -054C 055C 14CY 2 22HZ :	: 5736 / 0 : 156,360:	: : :
: 4013A :	: FLIP-FLOP D :	: B-1/JB: 24 :	: H DIP 14: 77/79 :	: 65C :	: COMM AI :	: CHECK TCVPC :	: -054C 055C 14CY 2 22HZ :	: 10515 / 1 : 290,886:	: 2141/ 1 :
: 4013A :	: FLIP-FLOP D :	: B-1/JB: 24 :	: H DIP 14: 77/79 :	: 65C :	: COMM AI :	: CHECK TCVPC :	: -054C 055C 14CY 2 22HZ :	: 1003 / 0 : 28,344:	: : :
: 4013A :	: FLIP-FLOP D :	: B-1/JB: 24 :	: H DIP 14: 76/77 :	: 56C :	: COMM AIF :	: FIELD :	: : :	: 45 / 0 : 30,681:	: : :
: 4013A :	: FLIP-FLOP D :	: B-1/JB: 24 :	: H DIP 14: 76/77 :	: 56C :	: COMM AIF :	: FIELD :	: : :	: 15 / 0 : 10,227:	: : :
: 4013A :	: FLIP-FLOP D :	: B-1/JB: 24 :	: H DIP 14: 76/77 :	: 56C :	: COMM AIF :	: FIELD :	: : :	: 40 / 0 : 16,764:	: : :
: 4013A :	: FLIP-FLOP D :	: B-1/JB: 24 :	: H DIP 14: 76/77 :	: 56C :	: COMM AIF :	: FIELD :	: : :	: 10 / 0 : 4,191:	: : :
: 4013A :	: FLIP-FLOP D :	: B-1/JB: 24 :	: H DIP 14: 76/77 :	: 56C :	: COMM AIF :	: FIELD :	: : :	: 42 / 0 : 21,168:	: : :
: 4013A :	: FLIP-FLOP D :	: B-1/JB: 24 :	: H DIP 14: 76/77 :	: 56C :	: COMM AIF :	: FIELD :	: : :	: 28 / 0 : 14,112:	: : :
: 4013A :	: FLIP-FLOP D :	: B-1/JB: 24 :	: H DIP 14: 76/77 :	: 56C :	: COMM AIT :	: FIELD :	: : :	: 76 / 0 : 77,324:	: : :
: 4013B :	: FLIP-FLOP D :	: D-1 31 :	: P DIP 14: 77/78 :	: 65C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR: :	: 9181 / 2 : 11,935,300:	: : :

DIGITAL DEVICE DATA

VARIOUS
CMOSMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRM. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
4013B	FLIP-FLOP D	D-1 31	P DIP 14: 78/79	65C	DSBY GBC	FIELD	040C 55XPWR	53699 / 5 69,808,700	
4014A	SHIFT REG	B-1/JB: 55	H DIP 16: 76/77	56C	COMM AIF	FIELD		60 / 1 40,908	
4014A	SHIFT REG	B-1/JB: 55	H DIP 16: 76/77	56C	COMM AIF	FIELD		60 / 0 40,908	
4014A	SHIFT REG	B-1/JB: 55	H DIP 16: 76/77	56C	COMM AIF	FIELD		56 / 0 28,224	
4014A	SHIFT REG	B-1/JB: 55	H DIP 16: 76/77	56C	COMM AIF	FIELD		112 / 0 56,448	
4014A	SHIFT REG	B-1/JB: 55	H DIP 16: 76/77	56C	COMM AIT	FIELD		76 / 0 77,324	
4015A	SHIFT REG	B-1/JB: 58	H DIP 16: 77/79	80C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	25916 / 8 708,888	2142/ 4
4015A	SHIFT REG	B-1/JB: 58	H DIP 16: 77/79	80C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	6018 / 8 141,720	2143/ 4
4015A	SHIFT REG	B-1/JB: 58	H DIP 16: 77/79	80C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	6018 / 8 141,720	2145/ 5
4015A	SHIFT REG	B-1/JB: 58	H DIP 16: 76/77	56C	COMM AIF	FIELD		90 / 0 61,362	2144/ 3
4015A	SHIFT REG	B-1/JB: 58	H DIP 16: 76/77	56C	COMM AIF	FIELD		40 / 0 16,764	
4015A	SHIFT REG	B-1/JB: 58	H DIP 16: 76/77	56C	COMM AIF	FIELD		60 / 0 25,146	
4015A	SHIFT REG	B-1/JB: 58	H DIP 16: 76/77	56C	COMM AIF	FIELD		168 / 0 84,672	
4015A	SHIFT REG	B-1/JB: 58	H DIP 16: 76/77	56C	COMM AIT	FIELD		76 / 0 77,324	
4018A	DIVIDER	B-1/JB: 57	H DIP 16: 77/79	80C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	25916 / 0 708,888	
4018A	DIVIDER	B-1/JB: 57	H DIP 16: 77/79	80C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	6018 / 0 141,720	
4018A	DIVIDER	B-1/JB: 57	H DIP 16: 76/77	56C	COMM AIF	FIELD		90 / 0 61,362	
4018A	DIVIDER	B-1/JB: 57	H DIP 16: 76/77	56C	COMM AIF	FIELD		40 / 0 16,764	
4018A	DIVIDER	B-1/JB: 57	H DIP 16: 76/77	56C	COMM AIF	FIELD		60 / 0 25,146	
4018A	DIVIDER	B-1/JB: 57	H DIP 16: 76/77	56C	COMM AIF	FIELD		168 / 0 84,672	
4018A	DIVIDER	B-1/JB: 57	H DIP 16: 76/77	56C	COMM AIT	FIELD		76 / 0 77,324	
4019A	GATE	B-1/JB: 12	H DIP 16: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	6479 / 0 177,222	

DIGITAL DEVICE DATA

VARIOUS CMOS		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEP REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
4019A	GATE	B-1/JB: 12	H DIP 16: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	1912 / 0	52,120		
4019A	GATE	B-1/JB: 12	H DIP 16: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	3505 / 0	96,962		
4019A	GATE	B-1/JB: 12	H DIP 16: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	2006 / 0	56,688		
4019A	GATE	B-1/JB: 12	H DIP 16: 76/77	56C	COMM AIF	FIELD		15 / 0	10,227		
4019A	GATE	B-1/JB: 12	H DIP 16: 76/77	56C	COMM AIF	FIELD		30 / 0	20,454		
4019A	GATE	B-1/JB: 12	H DIP 16: 76/77	56C	COMM AIF	FIELD		10 / 0	4,191		
4019A	GATE	B-1/JB: 12	H DIP 16: 76/77	56C	COMM AIF	FIELD		20 / 0	8,382		
4019A	GATE	B-1/JB: 12	H DIP 16: 76/77	56C	COMM AIF	FIELD		14 / 0	7,056		
4019A	GATE	B-1/JB: 12	H DIP 16: 76/77	56C	COMM AIF	FIELD		56 / 0	28,224		
4019A	GATE	B-1/JB: 12	H DIP 16: 76/77	56C	COMM AIT	FIELD		19 / 0	19,331		
4023B	GATE	D-1: 3	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR	1157 / 0	1,504,100		
4023B	GATE	D-1: 3	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR	4296 / 1	5,584,800		
4024	COUNTER BINARY	X: 81	P DIP 14: 76/78	47C	COMP GBC	FIELD	025C	10 / 0	153,068		
4024	COUNTER BINARY	X: 81	P DIP 14: 78/78	47C	COMP GBC	FIELD	025C	10 / 0	28,800		
4024A	COUNTER BINARY	B-1/JB: 81	H DIP 14: 77/79	80C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	6479 / 1	177,222	2146/ 1	
4024A	COUNTER BINARY	B-1/JB: 81	H DIP 14: 76/77	56C	COMM AIF	FIELD		30 / 0	20,454		
4024A	COUNTER BINARY	B-1/JB: 81	H DIP 14: 76/77	56C	COMM AIF	FIELD		15 / 0	10,227		
4024A	COUNTER BINARY	B-1/JB: 81	H DIP 14: 76/77	56C	COMM AIF	FIELD		10 / 0	4,191		
4024A	COUNTER BINARY	B-1/JB: 81	H DIP 14: 76/77	56C	COMM AIF	FIELD		28 / 0	14,112		
4024A	COUNTER BINARY	B-1/JB: 81	H DIP 14: 76/77	56C	COMM AIF	FIELD		28 / 0	14,112		
4024A	COUNTER BINARY	B-1/JB: 81	H DIP 14: 76/77	56C	COMM AIT	FIELD		19 / 0	19,331		
4024A	COUNTER BINARY	B-1/JB: 81	H DIP 14: 76/77	56C	COMM AIT	FIELD		19 / 0	19,331		
4025A	GATE	B-1/JB: 3	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	6479 / 0	177,222		

DIGITAL DEVICE DATA

VARIOUS
CMOSMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEP REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
4025A	GATE	B-1/JB: 3	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	1912 / 0	52,120:
4025A	GATE	B-1/JB: 3	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	3505 / 0	96,962:
4025A	GATE	B-1/JB: 3	H DIP 14: 76/77	56C	COMM AIF	FIELD		15 / 0	10,227:
4025A	GATE	B-1/JB: 3	H DIP 14: 76/77	56C	COMM AIF	FIELD		10 / 0	4,191:
4025A	GATE	B-1/JB: 3	H DIP 14: 76/77	56C	COMM AIF	FIELD		14 / 0	7,056:
4025A	GATE	B-1/JB: 3	H DIP 14: 76/77	56C	COMM AIT	FIELD		19 / 0	19,331:
4025A	GATE	D 3	H DIP 14: 78/79	56C	COMM AIF	FIELD		100 / 1	30,888:
4027A	FLIP-FLOP JK	D 30	H DIP 16: 77/77	50C	PROC GF	FIELD	040C	2361 / 2	10,199,520:
4027B	FLIP-FLOP JK	D-1 30	P DIP 16: 77/78	55C	DSPY GBC	FIELD	040C 55XPWR	937 / 0	1,218,100:
4027B	FLIP-FLOP JK	D-1 30	P DIP 16: 78/79	55C	DSPY GBC	FIELD	040C 55XPWR	3096 / 0	4,024,800:
4029A	COUNTER BINARY/BCD	B-1/JB: 72	H DIP 16: 76/77	56C	COMM AIT	FIELD		133 / 0	135,317:
4029A	COUNTER BINARY/BCD	B-1 72	H DIP 16: 77/79	80C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	6479 / 2	2147/ 2
4029A	COUNTER BINARY/BCD	B-1 72	H DIP 16: 77/79	80C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	1912 / 0	52,120:
4029A	COUNTER BINARY/BCD	B-1 72	H DIP 16: 77/79	80C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	3505 / 0	96,962:
4029A	COUNTER BINARY/BCD	B-1 72	H DIP 16: 76/77	56C	COMM AIF	FIELD		15 / 0	10,227:
4029A	COUNTER BINARY/BCD	B-1 72	H DIP 16: 76/77	56C	COMM AIF	FIELD		10 / 0	4,191:
4029A	COUNTER BINARY/BCD	B-1 72	H DIP 16: 76/77	56C	COMM AIT	FIELD		19 / 0	19,331:
4030A	GATE	B-1/JB: 4	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	2006 / 0	56,688:
4030A	GATE	B-1/JB: 4	H DIP 14: 76/77	56C	COMM AIF	FIELD		30 / 0	20,454:
4030A	GATE	B-1/JB: 4	H DIP 14: 76/77	56C	COMM AIF	FIELD		20 / 0	8,382:
4030A	GATE	B-1/JB: 4	H DIP 14: 76/77	56C	COMM AIF	FIELD		56 / 0	28,224:
4042B	LATCH D	D-1 33	P DIP 16: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	2721 / 0	3,537,300:

DIGITAL DEVICE DATA

VARIOUS
CMOSMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
4042B	LATCH	D-1	P DIP 16	42C	DSPY	FIELD	040C 55XPWR	24582 / 0	
	D	33	78/79		GBC			31,956,600	
4049	CONVERTER	D-1	P DIP 16	42C	DSPY	FIELD	040C 55XPWR	159 / 0	
	BUFFER	6	77/78		GBC			206,700	
4049	CONVERTER	D-1	P DIP 16	42C	DSPY	FIELD	040C 55XPWR	315 / 1	
	BUFFER	6	78/79		GBC			409,500	
4049A	CONVERTER	B-1/JB	H DIP 14	65C	COMM	CHECK	-054C 055C	45353 / 0	
	BUFFER	6	77/79		AI	TCVPC	14CY 2 22HZ	1,240,554	
4049A	CONVERTER	B-1/JB	H DIP 14	65C	COMM	CHECK	-054C 055C	3009 / 0	
	BUFFER	6	77/79		AI	TCVPC	14CY 2 22HZ	85,032	
4049A	CONVERTER	B-1/JB	H DIP 14	57C	COMM	FIELD		105 / 1	
	BUFFER	6	76/77		AIF			71,589	
4049A	CONVERTER	B-1/JB	H DIP 14	57C	COMM	FIELD		45 / 0	
	BUFFER	6	76/77		AIF			30,681	
4049A	CONVERTER	B-1/JB	H DIP 14	57C	COMM	FIELD		60 / 0	
	BUFFER	6	76/77		AIF			40,908	
4049A	CONVERTER	B-1/JB	H DIP 14	57C	COMM	FIELD		70 / 0	
	BUFFER	6	76/77		AIF			29,337	
4049A	CONVERTER	B-1/JB	H DIP 14	57C	COMM	FIELD		30 / 0	
	BUFFER	6	76/77		AIF			12,573	
4049A	CONVERTER	B-1/JB	H DIP 14	57C	COMM	FIELD		98 / 0	
	BUFFER	6	76/77		AIF			49,392	
4049A	CONVERTER	B-1/JB	H DIP 14	57C	COMM	FIELD		84 / 0	
	BUFFER	6	76/77		AIF			42,336	
4049A	CONVERTER	B-1/JB	H DIP 14	57C	COMM	FIELD		112 / 0	
	BUFFER	6	76/77		AIF			56,448	
4049A	CONVERTER	B-1/JB	H DIP 14	57C	COMM	FIELD		76 / 0	
	BUFFER	6	76/77		AIT			77,324	
4049A	CONVERTER	D	H DIP 14	57C	COMM	FIELD		50 / 0	
	BUFFER	6	78/79		AIF			15,444	
4050A	CONVERTER	B-1/JB	H DIP 14	65C	COMM	CHECK	-054C 055C	19437 / 3	2148/ 3
	BUFFER	6	77/79		AI	TCVPC	14CY 2 22HZ	531,666	
4050A	CONVERTER	B-1/JB	H DIP 14	65C	COMM	CHECK	-054C 055C	5736 / 0	
	BUFFER	6	77/79		AI	TCVPC	14CY 2 22HZ	156,360	
4050A	CONVERTER	B-1/JB	H DIP 14	65C	COMM	CHECK	-054C 055C	10515 / 0	
	BUFFER	6	77/79		AI	TCVPC	14CY 2 22HZ	290,886	
4050A	CONVERTER	B-1/JB	H DIP 14	65C	COMM	CHECK	-054C 055C	3009 / 0	
	BUFFER	6	77/79		AI	TCVPC	14CY 2 22HZ	85,032	
4050A	CONVERTER	B-1/JB	H DIP 14	57C	COMM	FIELD		45 / 0	
	BUFFER	6	76/77		AIF			30,681	
4050A	CONVERTER	B-1/JB	H DIP 14	57C	COMM	FIELD		45 / 0	
	BUFFER	6	76/77		AIF			30,681	
4050A	CONVERTER	B-1/JB	H DIP 14	57C	COMM	FIELD		30 / 0	
	BUFFER	6	76/77		AIF			12,573	
4050A	CONVERTER	B-1/JB	H DIP 14	57C	COMM	FIELD		30 / 0	
	BUFFER	6	76/77		AIF			12,573	

DIGITAL DEVICE DATA

VARIOUS CMOS		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
4050A	CONVERTER BUFFER	B-1/JB 6	H DIP 14 76/77	57C	COMM AIF	FIELD		42 / 0 21,168			
4050A	CONVERTER BUFFER	B-1/JB 6	H DIP 14 76/77	57C	COMM AIF	FIELD		84 / 0 42,336			
4050A	CONVERTER BUFFER	B-1/JB 6	H DIP 14 76/77	57C	COMM AIT	FIELD		57 / 0 57,993			
4050A	CONVERTER BUFFER	D 6	H DIP 14 78/79	57C	COMM AIF	FIELD		50 / 1 15,444			
4050B	CONVERTER BUFFER	D-1 6	P DIP 16 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	3639 / 0 4,730,700			
4050B	CONVERTER BUFFER	D-1 6	P DIP 16 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	11940 / 0 15,522,000			
4060B	COUNTER BINARY	D N/R	H DIP 16 77/77	50C	PROC GF	FIELD	040C	1700 / 2 46,224,000			
4060B	COUNTER BINARY	D N/R	H DIP 16 78/78	50C	PROC GF	FIELD	040C	723 / 2 3,123,360			
4076B	REGISTER D	D 45	H DIP 16 77/78	60C	DSPY GBC	FIELD	040C 55XPWR:	1119 / 0 1,454,700			
4076B	REGISTER D	D 45	H DIP 16 78/79	60C	DSPY GBC	FIELD	040C 55XPWR:	19982 / 4 25,976,600			
74C221	FLIP-FLOP MONOSTABLE	D 20	H DIP 16 78/78	42C	PROC GF	FIELD	040C	289 / 3 1,248,480			

DIGITAL DEVICE DATA

MOTOROLA SEMI
CMOS ,ION IMPLANTMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MTBF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
14001	GATE	D	H DIP 14	41C	DSPY	FIELD	040C 55XPWR	7880 / 1	10,244,000
		4	77/78		GBC				
14001	GATE	D	H DIP 14	41C	DSPY	FIELD	040C 55XPWR	11836 / 0	15,386,800
		4	78/79		GBC				
14001	GATE	D-1	P DIP 14	41C	DSPY	FIELD	040C 55XPWR	44184 / 25	57,439,200
		4	77/78		GBC				
14001	GATE	D-1	P DIP 14	41C	DSPY	FIELD	040C 55XPWR	68233 / 30	88,702,900
		4	78/79		GBC				
14001B	GATE	D-1	P DIP 14	126C	NR	LIFE	125C	204 / 0	617,208
		4	00/77		N/R	OP DYN			
						LIFE		204 / 3	
						EM			
14002	GATE	D	H DIP 14	41C	DSPY	FIELD	040C 55XPWR	1239 / 0	1,610,700
		2	77/78		GBC				
14002	GATE	D	H DIP 14	41C	DSPY	FIELD	040C 55XPWR	1626 / 0	2,113,800
		2	78/79		GBC				
14002	GATE	D-1	P DIP 14	41C	DSPY	FIELD	040C 55XPWR	3238 / 2	4,274,400
		2	77/78		GBC				
14002	GATE	D-1	P DIP 14	41C	DSPY	FIELD	040C 55XPWR	2410 / 1	3,133,000
		2	78/79		GBC				
14002B	GATE	D-1	P DIP 14	41C	DSPY	FIELD	040C 55XPWR	464 / 0	603,200
		2	77/78		GBC				
14002B	GATE	D-1	P DIP 14	41C	DSPY	FIELD	040C 55XPWR	1219 / 0	1,584,700
		2	78/79		GBC				
14007	INVERTER	D-1	P DIP 14	126C	NR	LIFE	125C	375 / 5	358,320
		3	00/77		N/R	OP DYN			
						LIFE		354 / 0	
						EM			
14007	INVERTER	D-1	P DIP 14	41C	DSPY	FIELD	040C 55XPWR	808 / 0	1,050,400
		3	78/79		GBC				
14007B	INVERTER	D-1	P DIP 14	126C	NR	LIFE	125C	206 / 0	623,280
		3	00/77		N/R	OP DYN			
						LIFE		206 / 2	
						EM			
14008	ADDER FULL	D	H DIP 16	42C	DSPY	FIELD	040C 55XPWR	715 / 0	929,500
		58	77/78		GBC				
14008	ADDER FULL	D	H DIP 16	42C	DSPY	FIELD	040C 55XPWR	1329 / 1	1,727,700
		58	78/79		GBC				
14008	ADDER FULL	D-1	P DIP 16	42C	DSPY	FIELD	040C 55XPWR	3457 / 0	4,494,100
		58	77/78		GBC				
14008	ADDER FULL	D-1	P DIP 16	42C	DSPY	FIELD	040C 55XPWR	3962 / 0	5,150,600
		58	78/79		GBC				
14011	GATE	D	H DIP 14	42C	DSPY	FIELD	040C 55XPWR	11828 / 3	15,376,400
		4	77/78		GBC				
14011	GATE	D	H DIP 14	42C	DSPY	FIELD	040C 55XPWR	18361 / 2	23,869,300
		4	78/79		GBC				

DIGITAL DEVICE DATA

MOTOROLA SEMI
CMOS ION IMPLANTMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEP REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
14011	GATE	D-1 4	P DIP 14: 00/77	127C	NR N/R	LIFE OP DYN	125C	205 / 0 621,024	
14011	GATE	D-1 4	P DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	85397 / 16 111,016,100	
14011	GATE	D-1 4	P DIP 14: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	99999 / 41 182,127,400	
14012	GATE	D 2	H DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR	826 / 0 1,073,800	
14012	GATE	D 2	H DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR	1084 / 0 1,409,200	
14012B	GATE	D-1 2	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR	236 / 0 306,800	
14012B	GATE	D-1 2	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR	736 / 0 956,800	
14013	FLIP-FLOP D	D 24	H DIP 14: 77/78	49C	DSPY GBC	FIELD	040C 55XPWR	7447 / 7 9,681,100	
14013	FLIP-FLOP D	D 24	H DIP 14: 78/79	49C	DSPY GBC	FIELD	040C 55XPWR	15098 / 3 19,627,400	
14013	FLIP-FLOP D	D-1 24	P DIP 14: 77/78	49C	DSPY GBC	FIELD	040C 55XPWR	73852 / 29 96,007,600	
14013	FLIP-FLOP D	D-1 24	P DIP 14: 78/79	49C	DSPY GBC	FIELD	040C 55XPWR	99999 / 35 138,723,000	
14015	SHIFT REG	D 58	H DIP 16: 77/78	47C	DSPY GBC	FIELD	040C 55XPWR	1652 / 5 2,147,600	
14015	SHIFT REG	D 58	H DIP 16: 78/79	47C	DSPY GBC	FIELD	040C 55XPWR	2168 / 2 2,818,400	
14015	SHIFT REG	D-1 58	P DIP 16: 77/78	47C	DSPY GBC	FIELD	040C 55XPWR	4139 / 1 5,380,700	
14015	SHIFT REG	D-1 58	P DIP 16: 78/79	47C	DSPY GBC	FIELD	040C 55XPWR	8690 / 2 11,297,000	
14018B	COUNTER	D-1 57	P DIP 16: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	153 / 0 198,900	
14021	SHIFT REG	D-1 55	P DIP 16: 77/78	48C	DSPY GBC	FIELD	040C 55XPWR	3921 / 0 5,097,300	
14021	SHIFT REG	D-1 55	P DIP 16: 78/79	48C	DSPY GBC	FIELD	040C 55XPWR	5936 / 0 7,716,800	
14021B	SHIFT REG	D-1 55	P DIP 16: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	232 / 0 301,600	
14021B	SHIFT REG	D-1 55	P DIP 16: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	636 / 0 826,800	

DIGITAL DEVICE DATA

MOTOROLA SEMI
CMOS , , ION IMPLANTMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	IMEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
14022	COUNTER	D-1 39	P DIP 16: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR:	955 / 0 1,241,500:	
14022	COUNTER	D-1 39	P DIP 16: 78/79	43C	DSPY GBC	FIELD	040C 55XPWR:	1484 / 0 1,929,200:	
14023	GATE	D 3	H DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	2811 / 2 3,654,300:	
14023	GATE	D 3	H DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	5587 / 0 7,263,100:	
14023	GATE	D-1 3	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	10973 / 3 14,264,900:	
14023	GATE	D-1 3	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	19118 / 2 24,853,400:	
14024	COUNTER	D-1 81	P DIP 14: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR:	834 / 0 1,084,200:	
14024	COUNTER	D-1 81	P DIP 14: 78/79	43C	DSPY GBC	FIELD	040C 55XPWR:	3792 / 1 4,929,600:	
14025	GATE	D 3	H DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	2393 / 1 3,110,900:	
14025	GATE	D 3	H DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	3652 / 1 4,747,600:	
14025	GATE	D-1 3	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	23902 / 11 31,072,600:	
14025	GATE	D-1 3	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	42813 / 19 55,656,900:	
14027	FLIP-FLOP JK	D 30	H DIP 16: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR:	1652 / 0 2,147,600:	
14027	FLIP-FLOP JK	D 30	H DIP 16: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR:	2168 / 1 2,818,400:	
14027	FLIP-FLOP JK	D-1 30	P DIP 16: 78/79	52C	DSPY GBC	FIELD	040C 55XPWR:	111 / 0 144,300:	
14028	DECODER BCD/DECIMAL	D 35	H DIP 16: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	1941 / 1 2,523,300:	
14028	DECODER BCD/DECIMAL	D 35	H DIP 16: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	2447 / 1 3,181,100:	
14028	DECODER BCD/DECIMAL	D-1 35	P DIP 16: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	5380 / 1 6,994,000:	
14028	DECODER BCD/DECIMAL	D-1 35	P DIP 16: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	9163 / 5 11,911,900:	
14040B	COUNTER BINARY	D-1 79	P DIP 16: 78/79	52C	DSPY GBC	FIELD	040C 55XPWR:	1341 / 0 1,743,300:	
14042	LATCH	D-1 31	P DIP 16: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	14619 / 3 19,004,700:	
14042	LATCH	D-1 31	P DIP 16: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	28738 / 8 37,359,400:	
14042B	LATCH	D-1 29	P DIP 16: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR:	112 / 0 145,600:	

DIGITAL DEVICE DATA

MOTOROLA SEMI
CMOS ,ION IMPLANTMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
14042B	LATCH	D-1 29	P DIP 16 78/79	43C	DSPY GBC	FIELD	040C 55XPWR:	188 / 0 244,400:	
14049	CONVERTER BUFFER	D 6	H DIP 16 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	6301 / 2 8,191,300:	
14049	CONVERTER BUFFER	D 6	H DIP 16 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	9311 / 4 12,104,300:	
14049	CONVERTER BUFFER	D-1 6	P DIP 16 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	23730 / 6 30,849,000:	
14049	CONVERTER BUFFER	D-1 6	P DIP 16 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	37506 / 9 48,757,800:	
14049B	CONVERTER BUFFER	D-1 6	P DIP 16 00/77	129C	NR N/R	LIFE OP DYN	125C	204 / 0 411,744:	
						LIFE FM		204 / 2	
14049B	CONVERTER BUFFER	D-1 6	P DIP 16 77/78	44C	DSPY GBC	FIELD	040C 55XPWR:	6139 / 1 7,980,700:	
14049B	CONVERTER BUFFER	D-1 6	P DIP 16 78/79	44C	DSPY GBC	FIELD	040C 55XPWR:	27624 / 7 35,911,200:	
14050	CONVERTER BUFFER	D 6	H DIP 16 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	1773 / 1 2,304,900:	
14050	CONVERTER BUFFER	D 6	H DIP 16 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	2629 / 13 3,417,700:	
14050	CONVERTER BUFFER	D-1 6	P DIP 16 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	40270 / 6 52,351,000:	
14050	CONVERTER BUFFER	D-1 6	P DIP 16 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	36637 / 6 47,628,100:	
14069B	INVERTER	D 6	H DIP 14 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	2971 / 0 3,862,300:	
14069B	INVERTER	D 6	H DIP 14 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	5300 / 0 6,890,000:	
14069B	INVERTER	D-1 6	P DIP 14 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	254 / 0 330,200:	
14069B	INVERTER	D-1 6	P DIP 14 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	404 / 0 525,200:	
14070B	GATE	D 4	H DIP 14 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	604 / 1 785,200:	
14070B	GATE	D 4	H DIP 14 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	1574 / 0 2,046,200:	
14070B	GATE	D-1 4	P DIP 14 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	682 / 0 886,600:	
14070B	GATE	D-1 4	P DIP 14 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	3659 / 0 4,756,700:	
14071	GATE	D-1 4	P DIP 14 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	118 / 0 153,400:	
14071B	GATE	D 4	H DIP 14 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	3525 / 0 4,582,500:	

DIGITAL DEVICE DATA

MOTOROLA SEMI
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OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	WVEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
14071B	GATE	D 4	H DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	7446 / 1 9,679,800:	
14071B	GATE	D-1 4	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	123 / 0 159,900:	
14071B	GATE	D-1 4	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	1760 / 2 2,288,000:	
14073B	GATE	D 3	H DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	302 / 0 392,600:	
14073B	GATE	D 3	H DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	787 / 0 1,023,100:	
14073B	GATE	D-1 3	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	2 / 0 2,600:	
14073B	GATE	D-1 3	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	79 / 0 102,700:	
14075B	GATE	D 3	H DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	604 / 1 785,200:	
14075B	GATE	D 3	H DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	1574 / 0 2,046,200:	
14077B	GATE	D 4	H DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	937 / 0 1,218,100:	
14077B	GATE	D 4	H DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	11731 / 4 15,250,300:	
14077B	GATE	D 4	H DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	302 / 0 392,600:	
14077B	GATE	D 4	H DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	787 / 0 1,023,100:	
14081B	GATE	D 4	H DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	3082 / 0 4,006,600:	
14081B	GATE	D 4	H DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	4826 / 1 6,273,800:	
14081B	GATE	D-1 4	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	2343 / 5 3,045,900:	
14081B	GATE	D-1 4	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	110 / 0 143,000:	
14081B	GATE	D-1 4	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	6258 / 0 8,135,400:	
14081B	GATE	D-1 4	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	773 / 0 1,004,900:	
14093B	GATE SCHMITT TRIGGER	D 4	H DIP 14: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR:	1737 / 1 2,258,100:	
14093B	GATE SCHMITT TRIGGER	D 4	H DIP 14: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR:	373 / 0 484,900:	
14093B	GATE SCHMITT TRIGGER	D 4	H DIP 14: 78/79	43C	DSPY GBC	FIELD	040C 55XPWR:	2604 / 2 3,385,200:	
14093B	GATE SCHMITT TRIGGER	D 4	H DIP 14: 78/79	43C	DSPY GBC	FIELD	040C 55XPWR:	1022 / 0 1,328,600:	

DIGITAL DEVICE DATA

MOTOROLA SEMI
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OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. / QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
14093B	GATE SCHMITT TRIGGER	D-1 4	P DIP 14: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR:	2 / 0 : 2,600:	
14093B	GATE SCHMITT TRIGGER	D-1 4	P DIP 14: 78/79	43C	DSPY GBC	FIELD	040C 55XPWR:	79 / 0 : 102,700:	
14502	BUFFER	D 6	H DIP 16: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	2240 / 1 : 2,912,000:	
14502	BUFFER	D 6	H DIP 16: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	5657 / 0 : 7,354,100:	
14502	BUFFER	D-1 6	P DIP 16: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	761 / 0 : 989,300:	
14502	BUFFER	D-1 6	P DIP 16: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	1451 / 2 : 1,886,300:	
14507	GATE	D 4	H DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	2025 / 1 : 2,632,500:	
14507	GATE	D 4	H DIP 14: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	3301 / 0 : 4,291,300:	
14507	GATE	D-1 4	P DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	2154 / 0 : 2,800,200:	
14507	GATE	D-1 4	P DIP 14: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	1804 / 1 : 2,345,200:	
14508B	LATCH	D 52	H DIP 24: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	3491 / 6 : 4,538,300:	
14508B	LATCH	D-1 52	P DIP 24: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR:	10 / 0 : 13,000:	
14508B	LATCH	D-1 52	P DIP 24: 78/79	43C	DSPY GBC	FIELD	040C 55XPWR:	395 / 0 : 513,500:	
14510	COUNTER BCD	D-1 77	P DIP 16: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR:	7648 / 1 : 9,942,400:	
14510	COUNTER BCD	D-1 77	P DIP 16: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR:	17900 / 5 : 23,270,000:	
14512	MULTIPLEXER	D-1 32	P DIP 16: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	7334 / 3 : 9,534,200:	
14512	MULTIPLEXER	D-1 32	P DIP 16: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	19566 / 5 : 25,435,800:	
14514	DECODER LATCH	D-1 86	P DIP 24: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	1196 / 0 : 1,554,800:	
14514	DECODER LATCH	D-1 86	P DIP 24: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	2680 / 0 : 3,484,000:	
14516	COUNTER BINARY	D-1 62	P DIP 16: 77/78	47C	DSPY GBC	FIELD	040C 55XPWR:	13524 / 1 : 17,581,200:	
14516	COUNTER BINARY	D-1 62	P DIP 16: 78/79	47C	DSPY GBC	FIELD	040C 55XPWR:	20280 / 3 : 26,364,000:	
14518B	COUNTER BCD	D 86	H DIP 16: 77/78	48C	DSPY GBC	FIELD	040C 55XPWR:	413 / 0 : 536,900:	
14518B	COUNTER BCD	D 86	H DIP 16: 78/79	48C	DSPY GBC	FIELD	040C 55XPWR:	542 / 0 : 704,600:	

DIGITAL DEVICE DATA

MOTOROLA SEMI
CMOS ,ION IMPLANTMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	INTEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
145188	COUNTER BCD	D-1 86	P DIP 16 77/78	48C	DSPY GBC	FIELD	040C 55XPWR	14850 / 8 19,305,000	
145188	COUNTER BCD	D-1 86	P DIP 16 78/79	48C	DSPY GBC	FIELD	040C 55XPWR	30521 / 4 39,677,300	
14519B	GATE	D-1 23	P DIP 16 78/79	43C	DSPY GBC	FIELD	040C 55XPWR	12629 / 8 16,417,700	
14520	COUNTER BINARY	D-1 80	P DIP 16 77/78	48C	DSPY GBC	FIELD	040C 55XPWR	3968 / 1 5,158,400	
14520	COUNTER BINARY	D-1 80	P DIP 16 78/79	48C	DSPY GBC	FIELD	040C 55XPWR	6494 / 3 8,442,200	
14522	COUNTER BCD	D 4R	H DIP 16 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	1251 / 1 1,626,300	
14522	COUNTER BCD	D 4R	H DIP 16 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	1242 / 1 1,614,600	
14526	COUNTER BINARY	D-1 46	P DIP 16 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	1207 / 0 1,569,100	
14526	COUNTER BINARY	D-1 46	P DIP 16 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	6613 / 2 8,596,900	
14527	MULTIPLIER BCD	D-1 47	P DIP 16 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	3011 / 0 3,914,300	
14527	MULTIPLIER BCD	D-1 47	P DIP 16 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	2783 / 1 3,617,900	
14528B	FLIP-FLOP MONOSTABLE	D 32	H DIP 16 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	746 / 0 969,800	
14528B	FLIP-FLOP MONOSTABLE	D 32	H DIP 16 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	2770 / 0 3,601,000	
14528B	FLIP-FLOP MONOSTABLE	D-1 32	P DIP 16 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	4375 / 3 5,687,500	
14528B	FLIP-FLOP MONOSTABLE	D-1 32	P DIP 16 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	12933 / 3 16,812,900	
14532	ENCODER	D 39	H DIP 16 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	1567 / 1 2,037,100	
14532	ENCODER	D 39	H DIP 16 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	2568 / 0 3,338,400	
14532	ENCODER	D-1 39	P DIP 16 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	323 / 0 419,900	
14532	ENCODER	D-1 39	P DIP 16 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	1023 / 0 1,329,900	
14538B	FLIP-FLOP MONOSTABLE	D 18	H DIP 16 77/78	43C	DSPY GBC	FIELD	040C 55XPWR	1194 / 0 1,552,200	
14538B	FLIP-FLOP MONOSTABLE	D 18	H DIP 16 78/79	43C	DSPY GBC	FIELD	040C 55XPWR	1211 / 1 1,574,300	
14538B	FLIP-FLOP MONOSTABLE	D-1 18	P DIP 16 78/79	43C	DSPY GBC	FIELD	040C 55XPWR	6412 / 0 8,335,600	
14539	MULTIPLEXER	D 26	H DIP 16 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	413 / 0 536,900	

DIGITAL DEVICE DATA

MOTOROLA SEMI CMOS , ION IMPLANT		MANUFACTURER OPERATIONAL TYPE			RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO.: /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
14539	MULTIPLEXER	D	H DIP 16: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	542 / 0	704,600:	
14539B	MULTIPLEXER	D-1 26	P DIP 16: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	1862 / 0	2,420,600:	
14539B	MULTIPLEXER	D-1 26	P DIP 16: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	2636 / 1	3,426,800:	
14549B	REGISTER	D-1 N/R	P DIP 16: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR:	1104 / 1	1,435,200:	
14549B	REGISTER	D-1 N/R	P DIP 16: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR:	2386 / 2	3,101,800:	
14555B	DECODER/DEMUTIPLEX	D-1 34	P DIP 16: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	147 / 0	191,100:	
14556	DECODER/DEMUTIPLEX	D-1 34	P DIP 16: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	477 / 0	620,100:	
14556	DECODER/DEMUTIPLEX	D-1 34	P DIP 16: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	714 / 0	928,200:	
14559	REGISTER	D-1 N/R	P DIP 16: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR:	1104 / 1	1,435,200:	
14559	REGISTER	D-1 N/R	P DIP 16: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR:	2386 / 2	3,101,800:	
14560BC	ADDER BCD	D-1 64	P DIP 16: 77/78	44C	DSPY GBC	FIELD	040C 55XPWR:	4 / 0	5,200:	
14560BC	ADDER BCD	D-1 64	P DIP 16: 78/79	44C	DSPY GBC	FIELD	040C 55XPWR:	1042 / 0	1,354,600:	
14566B	GENERATOR	D-1 N/R	P DIP 16: 77/78	46C	DSPY GBC	FIELD	040C 55XPWR:	1786 / 0	2,321,800:	
14566B	GENERATOR	D-1 N/R	P DIP 16: 78/79	46C	DSPY GBC	FIELD	040C 55XPWR:	1742 / 0	2,264,600:	
14572	GATE	D-1 6	P DIP 16: 00/77	129C	NR N/R	LIFE OP DYN	125C	204 / 0	618,408:	
						LIFE EM		204 / 3		
14572	GATE	D-1 6	P DIP 16: 78/79	44C	DSPY GBC	FIELD	040C 55XPWR:	2001 / 0	2,601,300:	
14584B	INVERTER SCHMITT TRIGGER	D-1 6	P DIP 14: 00/77	129C	NR N/R	LIFE OP DYN	125C	208 / 0	628,992:	
						LIFE EM		208 / 1		
14585	COMPARATOR	D-1 36	P DIP 16: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	3225 / 0	4,192,500:	
14585	COMPARATOR	D-1 36	P DIP 16: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	4636 / 0	6,026,800:	

DIGITAL DEVICE DATA

FAIRCHILD SEMI CMOS , ISOPPLANAR		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MYEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
34011	GATE	D	H DIP 14	42C	DSPY	FIELD	040C 55XPWR	637 / 0	828,100		
		4	77/78		GBC						
34011	GATE	D	H DIP 14	42C	DSPY	FIELD	040C 55XPWR	674 / 0	876,200		
		4	78/79		GBC						
34085	GATE	D	H DIP 14	42C	DSPY	FIELD	040C 55XPWR	1535 / 0	1,995,500		
		6	78/79		GBC						
34086	GATE	D	H DIP 14	42C	DSPY	FIELD	040C 55XPWR	1535 / 0	1,995,500		
		5	78/79		GBC						
34512	MULTIPLEXER	D-1	P DIP 16	42C	DSPY	FIELD	040C 55XPWR	1080 / 0	1,404,000		
		29	77/78		GBC						
34512	MULTIPLEXER	D-1	P DIP 16	42C	DSPY	FIELD	040C 55XPWR	1472 / 1	1,913,600		
		29	78/79		GBC						
4019B	MULTIPLEXER	D-1	P DIP 16	42C	DSPY	FIELD	040C 55XPWR	1364 / 0	1,773,200		
		12	77/78		GBC						
4019B	MULTIPLEXER	D-1	P DIP 16	42C	DSPY	FIELD	040C 55XPWR	37 / 0	48,100		
		12	78/79		GBC						
4019B	MULTIPLEXER	D-1	P DIP 16	42C	DSPY	FIELD	040C 55XPWR	3384 / 0	4,399,200		
		12	78/79		GBC						
4027	FLIP-FLOP JK	D	H DIP 16	66C	DSPY	FIELD	040C 55XPWR	466 / 0	605,800		
		16	78/79		GBC						
4029B	COUNTER BINARY	D	H DIP 16	55C	DSPY	FIELD	040C 55XPWR	232 / 0	301,600		
		68	77/78		GBC						
4029B	COUNTER BINARY	D	H DIP 16	55C	DSPY	FIELD	040C 55XPWR	725 / 0	942,500		
		68	78/79		GBC						
4049	CONVERTER BUFFER	D-1	P DIP 16	43C	DSPY	FIELD	040C 55XPWR	1101 / 0	1,431,300		
		6	77/78		GBC						
4049	CONVERTER BUFFER	D-1	P DIP 16	43C	DSPY	FIELD	040C 55XPWR	2296 / 0	2,984,800		
		6	78/79		GBC						

DIGITAL DEVICE DATA

VARIOUS
CHOSMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO.: /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
4001B	GATE	D	H DIP 14	41C	PROC GF	FIELD	040C	3096 / 3	13,374,720
4008B	ADDER FULL	D-1 58	P DIP 16	42C	DSPY GBC	FIELD	040C 55XPWR	1168 / 0	1,518,400
4008B	ADDER FULL	D-1 58	P DIP 16	42C	DSPY GBC	FIELD	040C 55XPWR	3206 / 1	4,167,800
4011B	GATE	D	H DIP 14	41C	PROC GF	FIELD	040C	6000 / 1	25,920,000
4011B	GATE	D	H DIP 14	41C	PROC GF	FIELD	040C	4500 / 3	19,440,000
4023B	GATE	D	H DIP 14	41C	PROC GF	FIELD	040C	1000 / 2	4,320,000
4023B	GATE	D	H DIP 14	41C	PROC GF	FIELD	040C	1111 / 4	4,799,520
4025B	GATE	D-1 3	P DIP 14	41C	DSPY GBC	FIELD	040C 55XPWR	2288 / 0	2,974,400
4025B	GATE	D-1 3	P DIP 14	41C	DSPY GBC	FIELD	040C 55XPWR	11624 / 1	15,111,200
4028B	DECODER	D-1 35	P DIP 16	42C	DSPY GBC	FIELD	040C 55XPWR	1412 / 0	1,835,600
4028B	DECODER	D-1 35	P DIP 16	42C	DSPY GBC	FIELD	040C 55XPWR	5676 / 0	7,378,800
4042B	LATCH D	D	H DIP 16	42C	PROC GF	FIELD	040C	1245 / 1	5,378,400
4042B	LATCH D	D	H DIP 16	42C	PROC GF	FIELD	040C	395 / 2	1,706,400
4049B	CONVERTER BUFFER	D	H DIP 14	41C	PROC GF	FIELD	040C	1000 / 1	4,320,000
4050B	CONVERTER BUFFER	D	H DIP 14	41C	PROC GF	FIELD	040C	667 / 1	2,881,440
4050B	CONVERTER BUFFER	D	H DIP 14	41C	PROC GF	FIELD	040C	962 / 8	4,155,840
4069B	INVERTER	D	H DIP 14	41C	PROC GF	FIELD	040C	1987 / 5	8,583,840
4511B	LATCH DECODER/DRIVER	D	H DIP 16	42C	PROC GF	FIELD	040C	1429 / 1	6,173,280
4511B	LATCH DECODER/DRIVER	D	H DIP 16	42C	PROC GF	FIELD	040C	1429 / 1	6,173,280
4518B	COUNTER BCD	D	H DIP 16	47C	PROC GF	FIELD	040C	3809 / 2	16,454,880
4519B	GATE	D	H DIP 16	47C	PROC GF	FIELD	040C	736 / 3	3,179,520
4528B	FLIP-FLOP MONOSTABLE	D	H DIP 16	45C	PROC GF	FIELD	040C	869 / 2	3,754,080
4585B	COMPARATOR	D	H DIP 16	41C	PROC GF	FIELD	040C	1667 / 1	7,201,440

DIGITAL DEVICE DATA

VARIOUS
CMOS ,S.R.

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	WFEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
4585B	COMPARATOR	D 36	H DIP 16: 78/78	41C	PROC GF	FIELD	040C	5119 / 2	22,114,080

DIGITAL DEVICE DATA

VARIOUS P-DYN		MANUFACTURER OPERATIONAL TYPE					RELIABILITY ANALYSIS CENTER			
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO.: /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
3708	MULTIPLEXER	B-2 N/R	H DIP 16: 75/78	37C	COMM GT	FIELD	025C	27 / 0 62,757		

FAIRCHILD SEMI P-DYN		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
: PART :	: DEVICE :	: SCR.N. :	: PACKAGE/ :	: JCT.* :	: EQUIP. :	: DATA :	: STRESS :	: #TESTED/ :	: MFEF REPORT NO. :	
: NO. :	: FUNCTION :	: CLASS :	: PINS :	: TEMP. :	: TYPE :	: CLASS. :	: LEVEL :	: #FAILED :	: /QTY FAILED :	
:	: CIRCUIT :	: NO. :	: TEST :	:	: APPL. :	: TEST :	:	: PART :	:	
:	: FUNCTION :	: GATES :	: DATE :	:	: ENV. :	: TYPE :	:	: HOURS :	:	
:	:	:	:	:	:	:	:	:	:	
: 3816 :	: COUNTER :	: D-1 :	: P DIP 16:	: 50C :	: DSPY :	: FIELD :	: 040C 55XPWR:	: 25 / 0 :	:	
:	: PROGRAMMABLE :	: N/R :	: 78/79 :	:	: GBC :	:	:	: 32,500:	:	
:	:	:	:	:	:	:	:	:	:	

VARIOUS P-STAT		MANUFACTURER OPERATIONAL TYPE					RELIABILITY ANALYSIS CENTER			
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO.: /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
3705	MULTIPLEXER	B-2/W N/R	H DIP 16: 75/78		RADR AUF	FIELD		8 / 0 16		
3705	MULTIPLEXER	B-2 N/R	H DIP 16: 77/77		RADR AIU	RELDEN OPERATE		600 / 0 19,320		

VARIOUS P-STAT, MMOS		:MANUFACTURER :OPERATIONAL TYPE					RELIABILITY ANALYSIS CENTER			
: PART : NO.	: DEVICE : FUNCTION	: SCR.N. : CLASS	: PACKAGE/ : PINS	: JCT.* : TEMP.	: EQUIP. : TYPE	: DATA : CLASS.	: STRESS : LEVEL	: #TESTED/ : #FAILED	: MFEF REPORT NO.: : /QTY FAILED	
:	: CIRCUIT : FUNCTION	: NO. : GATES	: TEST : DATE	:	: APPL. : ENV.	: TEST : TYPE	:	: PART : HOURS	:	
:	:	:	:	:	:	:	:	:	:	
:	: SHIFT REC	: C-1	: H FPK 14:	:	: RADR	: FIELD	:	: 13266 / 45	:	
:	:	: N/R	: 75/78	:	: AUF	:	:	: 15,093,330:	:	
:	:	:	:	:	:	:	:	:	:	

DIGITAL DEVICE DATA

FAIRCHILD SEMI
DTLMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
951	FLIP-FLOP MONOSTABLE	D 7	H CAN 77/78	10: 46C	DSPY GBC	FIELD	040C 55XPWR	834 / 0 -1,110,200	
951	FLIP-FLOP MONOSTABLE	D 7	H CAN 78/79	10: 46C	DSPY GBC	FIELD	040C 55XPWR	683 / 1 887,900	

MOTOROLA SEMI
DTLMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
1800	GATE	D-1 2	P DIP 77/78	14: 43C	DSPY GBC	FIELD	040C 55XPWR	642 / 0 834,600	
1800	GATE	D-1 2	P DIP 78/79	14: 43C	DSPY GBC	FIELD	040C 55XPWR	860 / 0 1,118,000	
1812	GATE	D-1 4	P DIP 77/78	14: 53C	DSPY GBC	FIELD	040C 55XPWR	1696 / 0 2,204,800	
1812	GATE	D-1 4	P DIP 78/79	14: 53C	DSPY GBC	FIELD	040C 55XPWR	2766 / 0 3,595,800	
8176	BUFFER	D-1 N/R	P DIP 77/78	14: 50C	DSPY GBC	FIELD	040C 55XPWR	319 / 0 414,700	
8176	BUFFER	D-1 N/R	P DIP 78/79	14: 50C	DSPY GBC	FIELD	040C 55XPWR	287 / 1 373,100	
857	BUFFER	D-1 4	P DIP 77/78	14: 58C	DSPY GBC	FIELD	040C 55XPWR	770 / 0 1,001,000	
857	BUFFER	D-1 4	P DIP 78/79	14: 58C	DSPY GBC	FIELD	040C 55XPWR	1554 / 1 2,020,200	

SIGNETICS
DTLMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
106	EXPANDER	D 2	H FPK 77/77	14: 160C	NR N/R	LIFE STGLIFE	150C	40 / 0 40,000	
						LIFE EM		40 / 0	
106	EXPANDER	D 2	H FPK 77/77	14: 160C	NR N/R	LIFE STGLIFE	150C	45 / 0 45,000	
						LIFE EM		45 / 0	

DIGITAL DEVICE DATA

SIGNETICS
DTLMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO.: /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
110	GATE EXPANDABLE	D 1	H FPK 14: 77/77	157C	NR N/R	LIFE STGLIFE	150C	40 / 0	40,000
						LIFE EM		40 / 0	
111	GATE	D 2	H FPK 14: 77/77	133C	NR N/R	LIFE OP DYN	125C	40 / 0	40,000
						LIFE EM		40 / 0	
112	GATE EXPANDABLE	D 2	H FPK 14: 77/77	133C	NR N/R	LIFE OP DYN	125C	40 / 0	40,000
						LIFE EM		40 / 0	
112	GATE EXPANDABLE	D 2	H FPK 14: 77/77	158C	NR N/R	LIFE STGLIFE	150C	40 / 0	40,000
						LIFE EM		40 / 0	
115	GATE	D 2	H FPK 10: 77/77	127C	NR N/R	LIFE OP DYN	125C	40 / 0	40,000
						LIFE EM		40 / 0	
116	GATE EXPANDABLE	D 2	H FPK 14: 77/77	129C	NR N/R	LIFE OP DYN	125C	40 / 0	40,000
						LIFE EM		40 / 0	
124	FLIP-FLOP	D 8	H CAN 10: 77/77	163C	NR N/R	LIFE OP DYN	125C	46 / 0	46,000
						LIFE EM		46 / 0	
124	FLIP-FLOP	D 8	H CAN 10: 77/77	188C	NR N/R	LIFE STGLIFE	150C	91 / 0	91,000
						LIFE EM		91 / 0	
124	FLIP-FLOP	D 8	H FPK 14: 77/77	131C	NR N/R	LIFE OP DYN	125C	165 / 0	165,000
						LIFE EM		165 / 0	
124	FLIP-FLOP	D 8	H FPK 14: 77/77	156C	NR N/R	LIFE STGLIFE	150C	40 / 0	40,000
						LIFE EM		40 / 0	
124	FLIP-FLOP	D 8	H FPK 14: 77/77	156C	NR N/R	LIFE STGLIFE	150C	360 / 0	360,000
						LIFE EM		360 / 0	
124	FLIP-FLOP	D 8	H FPK 14: 77/77	203C	NR N/R	LIFE STGLIFE	150C	45 / 0	45,000
						LIFE EM		45 / 0	

DIGITAL DEVICE DATA

SIGNETICS
DTLMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEV REPORT NO.: /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
						LIFE		45 / 0	
						EM			
124	FLIP-FLOP	D	H FPK 10: 186C	NR		LIFE	125C	46 / 0	
		8	77/77	N/R		OP DYN		46,000	
						LIFE		46 / 0	
						EM			
124	FLIP-FLOP	D	H FPK 14: 131C	NR		LIFE	125C	40 / 0	
		R	77/77	N/R		OP DYN		40,000	
						LIFE		40 / 0	
						EM			
160	FLIP-FLOP MONOSTABLE	D	H FPK 10: 132C	NR		LIFE	125C	40 / 0	
		8	77/77	N/R		OP DYN		40,000	
						LIFE		40 / 0	
						EM			
161	FLIP-FLOP MONOSTABLE	D	H FPK 14: 141C	NR		LIFE	125C	120 / 0	
		8	77/77	N/R		OP DYN		120,000	
						LIFE		120 / 0	
						EM			
170	GATE	D	H FPK 14: 129C	NR		LIFE	125C	40 / 0	
		3	77/77	N/R		OP DYN		40,000	
						LIFE		40 / 0	
						EM			
180	GATE	B-2	H FPK 14: 129C	NR		LIFE	125C	40 / 0	
		4	77/77	N/R		OP DYN		40,000	
						LIFE		40 / 0	
						EM			
180	GATE	D	H FPK 14: 129C	NR		LIFE	125C	40 / 0	
		4	77/77	N/R		OP DYN		40,000	
						LIFE		40 / 0	
						EM			
316	GATE EXPANDABLE	D	H CAN 10: 153C	NR		LIFE	150C	40 / 0	
		2	77/77	N/R		STGLIFE		40,000	
						LIFE		40 / 0	
						EM			
322	FLIP-FLOP JK	D-1	P DIP 16: 53C	DSPY		FIELD	040C 55XPWR	374 / 0	
		22	77/78	GBC				486,200	
322	FLIP-FLOP JK	D-1	P DIP 16: 53C	DSPY		FIELD	040C 55XPWR	296 / 0	
		22	78/79	GBC				384,800	
374	GATE	D-1	P DIP 14: 47C	DSPY		FIELD	040C 55XPWR	112 / 0	
		3	77/78	GBC				145,600	
374	GATE	D-1	P DIP 14: 47C	DSPY		FIELD	040C 55XPWR	120 / 0	
		3	78/79	GBC				156,000	
631	EXPANDER	D-1	P DIP 14: 50C	DSPY		FIELD	040C 55XPWR	1324 / 0	
		4	77/78	GBC				1,721,200	
631	EXPANDER	D-1	P DIP 14: 50C	DSPY		FIELD	040C 55XPWR	1508 / 0	
		4	78/79	GBC				1,960,400	

DIGITAL DEVICE DATA

SIGNETICS
DTL:MANUFACTURER
:OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

: PART NO. :	: DEVICE FUNCTION :	: SCRN. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MFEF REPORT NO. : /QTY FAILED :
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:
: 8424 :	: FLIP-FLOP :	: B-2 :	: H FPK 14 :	: 30C :	: COMM :	: FIELD :	: 025C :	: 9 / 0 :	: :
:	: RS :	: 16 :	: 75/78 :	:	: GT :	:	:	: 20,919 :	:

TEXAS INSTRUMENTS
DTL:MANUFACTURER
:OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

: PART NO. :	: DEVICE FUNCTION :	: SCRN. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MFEF REPORT NO. : /QTY FAILED :
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:
: 159093 :	: FLIP-FLOP :	: D-1 :	: P DIP 14 :	: 35C :	: COMM :	: FIELD :	: 025C :	: 3 / 0 :	: :
:	: JK :	: 16 :	: 71/79 :	:	: GBC :	:	:	: 210,240 :	:
: 159093 :	: FLIP-FLOP :	: D-1 :	: P DIP 14 :	:	: COMM :	: FIELD :	:	: 72 / 0 :	:
:	: JK :	: 16 :	: 71/79 :	:	: GM :	:	:	: 3,363,840 :	:
: 15930 :	: GATE :	: D-1 :	: P DIP 14 :	: 26C :	: COMM :	: FIELD :	: 025C :	: 3 / 0 :	:
:	: EXPANDABLE :	: 2 :	: 71/79 :	:	: GBC :	:	:	: 210,240 :	:
: 15930 :	: GATE :	: D-1 :	: P DIP 14 :	:	: COMM :	: FIELD :	:	: 72 / 0 :	:
:	: EXPANDABLE :	: 2 :	: 71/79 :	:	: GM :	:	:	: 3,363,840 :	:
: 15946 :	: GATE :	: D-1 :	: P DIP 14 :	: 26C :	: COMM :	: FIELD :	: 025C :	: 6 / 0 :	:
:	:	: 4 :	: 71/79 :	:	: GBC :	:	:	: 420,480 :	:
: 15946 :	: GATE :	: D-1 :	: P DIP 14 :	:	: COMM :	: FIELD :	:	: 144 / 0 :	:
:	:	: 4 :	: 71/79 :	:	: GM :	:	:	: 6,727,680 :	:

VARIOUS
DTL:MANUFACTURER
:OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

: PART NO. :	: DEVICE FUNCTION :	: SCRN. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MFEF REPORT NO. : /QTY FAILED :
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:
:	: FLIP-FLOP :	: B-1 :	: H DIP 14 :	:	: NAVG :	: FIELD :	:	: 66 / 0 :	:
:	: RS :	: 16 :	: 75/78 :	:	: AIF :	:	:	: 75,240 :	:
: 1800 :	: GATE :	: D-1 :	: P DIP 14 :	: 35C :	: COMP :	: FIELD :	: 025C :	: 2 / 0 :	:
:	:	: 2 :	: 77/79 :	:	: GB :	:	:	: 38,468 :	:
: 1800 :	: GATE :	: D-1 :	: P DIP 14 :	: 35C :	: COMP :	: FIELD :	: 025C :	: 4 / 0 :	:
:	:	: 2 :	: 77/79 :	:	: GB :	:	:	: 79,520 :	:
: 1801 :	: GATE :	: D-1 :	: P DIP 14 :	: 50C :	: DSPY :	: FIELD :	: 040C 55ZPWR :	: 6842 / 1 :	:
:	:	: 2 :	: 77/78 :	:	: GBC :	:	:	: 8,894,600 :	:
: 1801 :	: GATE :	: D-1 :	: P DIP 14 :	: 50C :	: DSPY :	: FIELD :	: 040C 55ZPWR :	: 6446 / 2 :	:
:	:	: 2 :	: 78/79 :	:	: GBC :	:	:	: 8,379,800 :	:
: 1802 :	: GATE :	: NONE :	: N/R DIP 14 :	: 35C :	: COMP :	: FIELD :	: 025C :	: 1 / 0 :	:
:	: EXPANDABLE :	: 1 :	: 77/79 :	:	: CB :	:	:	: 19,234 :	:
: 1802 :	: GATE :	: NONE :	: N/R DIP 14 :	: 35C :	: COMP :	: FIELD :	: 025C :	: 2 / 0 :	:
:	: EXPANDABLE :	: 1 :	: 77/79 :	:	: GB :	:	:	: 39,760 :	:

DIGITAL DEVICE DATA

VARIATION DTL		MANUFACTURE OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCHE. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
1806	GATE	D-1 4	P DIP 14 77/79	35C	COMP GB	FIELD	025C	4 / 0 76,936			
1806	GATE	D-1 4	P DIP 14 77/79	35C	COMP GB	FIELD	025C	8 / 0 159,040			
1806	GATE	D-1 4	P DIP 14 77/78	50C	DSPY GBC	FIELD	040C 55%PWR	12423 / 2 16,149,900			
1806	GATE	D-1 4	P DIP 14 78/79	50C	DSPY GRC	FIELD	040C 55%PWR	13478 / 5 17,521,400			
1806	GATE	D-1 4	P DIP 14 77/79	35C	COMP GB	FIELD	025C	2 / 0 38,468			
1808	GATE	D-1 4	P DIP 14 77/79	35C	COMP GB	FIELD	025C	4 / 0 79,520			
1808	GATE	D-1 4	P DIP 14 77/78	50C	DSPY GBC	FIELD	040C 55%PWR	27398 / 6 35,617,400			
1808	GATE	D-1 4	P DIP 14 78/79	50C	DSPY GBC	FIELD	040C 55%PWR	31006 / 10 40,307,800			
1809	GATE	D-1 4	P DIP 14 77/78	50C	DSPY GBC	FIELD	040C 55%PWR	2307 / 0 2,999,100			
1809	GATE	D-1 4	P DIP 14 78/79	50C	DSPY GBC	FIELD	040C 55%PWR	2701 / 0 3,511,300			
1810	GATE	D-1 4	P DIP 14 77/79	35C	COMP GB	FIELD	025C	1 / 0 19,234			
1810	GATE	D-1 4	P DIP 14 77/79	35C	COMP GB	FIELD	025C	2 / 0 39,760			
1810	GATE	D-1 4	P DIP 14 77/78	50C	DSPY GBC	FIELD	040C 55%PWR	8110 / 1 10,543,000			
1810	GATE	D-1 4	P DIP 14 78/79	50C	DSPY GBC	FIELD	040C 55%PWR	10306 / 0 13,397,300			
1812	GATE	D-1 4	P DIP 14 77/79	35C	COMP GB	FIELD	025C	1 / 0 19,234			
1812	GATE	D-1 4	P DIP 14 77/79	35C	COMP GB	FIELD	025C	2 / 0 39,760			
830	GATE EXPANDABLE	D-1 2	P DIP 14 77/79	35C	COMP GB	FIELD	025C	2 / 0 38,468			
830	GATE EXPANDABLE	D-1 2	P DIP 14 77/79	35C	COMP GB	FIELD	025C	4 / 0 79,520			
832	BUFFER EXPANDABLE	D-1 2	P DIP 14 77/78	50C	DSPY GBC	FIELD	040C 55%PWR	3179 / 0 4,132,700			
832	BUFFER EXPANDABLE	D-1 2	P DIP 14 78/79	50C	DSPY GBC	FIELD	040C 55%PWR	4759 / 0 6,186,700			
836	INVERTER	D-1 6	P DIP 14 77/78	50C	DSPY GBC	FIELD	040C 55%PWR	19688 / 10 25,594,400			
836	INVERTER	D-1 6	P DIP 14 78/79	50C	DSPY GBC	FIELD	040C 55%PWR	23188 / 12 30,144,400			
836	INVERTER	NOTE 6	N/R DIP 14 77/79	35C	COMP GB	FIELD	025C	8 / 0 153,872			

VARIOUS DTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	IEEE REPORT NO. /CTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
836	INVERTER	NONE	N/R DIP 14:	35C	COMP	FIELD	025C	16 / 2	2217/ 2		
		6	77/79		GB			318,080			
844	GATE EXPANDABLE	D-1 2	P DIP 14: 77/78	50C	DSFY GBC	FIELD	040C 55%PWR	359 / 1	466,700		
844	GATE EXPANDABLE	D-1 2	P DIP 14: 78/79	50C	DSFY GBC	FIELD	040C 55%PWR	303 / 1	393,900		
845	FLIP-FLOP RS	D-1 8	P DIP 14: 77/78	50C	DSFY GBC	FIELD	040C 55%PWR	1047 / 1	1,361,100		
845	FLIP-FLOP RS	D-1 8	P DIP 14: 78/79	50C	DSFY GBC	FIELD	040C 55%PWR	680 / 0	884,000		
846	GATE	D-1 4	P DIP 14: 77/78	50C	DSFY GBC	FIELD	040C 55%PWR	48009 / 32	62,411,700		
846	GATE	D-1 4	P DIP 14: 78/79	50C	DSFY GBC	FIELD	040C 55%PWR	57033 / 9	74,142,900		
848	FLIP-FLOP JK	D-1 10	P DIP 14: 77/78	50C	DSFY GBC	FIELD	040C 55%PWR	2337 / 1	3,038,100		
848	FLIP-FLOP JK	D-1 10	P DIP 14: 78/79	50C	DSFY GBC	FIELD	040C 55%PWR	3480 / 3	4,524,000		
849	GATE	D-1 4	P DIP 14: 77/78	50C	DSFY GBC	FIELD	040C 55%PWR	5915 / 2	7,689,500		
849	GATE	D-1 4	P DIP 14: 78/79	50C	DSFY GBC	FIELD	040C 55%PWR	6448 / 2	8,382,400		
852	FLIP-FLOP JK	D-1 16	P DIP 14: 77/79	35C	COMP GB	FIELD	025C	1 / 0	19,234		
852	FLIP-FLOP JK	D-1 16	P DIP 14: 77/79	35C	COMP GB	FIELD	025C	2 / 0	39,760		
858	GATE	D-1 4	P DIP 14: 77/78	50C	DSFY GBC	FIELD	040C 55%PWR	7493 / 1	9,740,900		
858	GATE	D-1 4	P DIP 14: 78/79	50C	DSFY GBC	FIELD	040C 55%PWR	9418 / 1	12,243,400		
862	GATE	D-1 3	P DIP 14: 77/79	35C	COMP GB	FIELD	025C	5 / 0	96,170		
862	GATE	D-1 3	P DIP 14: 77/79	35C	COMP GB	FIELD	025C	10 / 0	198,800		
9094	FLIP-FLOP JK	B-2/N 23	H FPK 14: 75/78		RADR AIF	FIELD		120 / 0	9,030		
930	GATE EXPANDABLE	B-2/N 2	H FPK 14: 75/78		RADR AIF	FIELD		4 / 0	768		
930	GATE EXPANDABLE	B-2/N 2	H FPK 14: 75/78		RADR AIF	FIELD		20 / 0	1,505		
930	GATE EXPANDABLE	B-2/N 2	H FPK 14: 75/78		RADR AIF	FIELD		6 / 0	1,736		
930	GATE EXPANDABLE	B-2/N 2	H FPK 14: 75/78		RADR AUF	FIELD		16 / 0	2,816		
932	BUFFER EXPANDABLE	B-2/N 2	H FPK 14: 75/78		RADR AIF	FIELD		40 / 0	3,010		

DIGITAL DEVICE DATA

VARIOUS
DTLMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MTBF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
932	BUFFER EXPANDABLE	B-2/N 2	H FPK 14 75/78		RADR AIF	FIELD		52 / 0 8,574	
937	INVERTER	B-2/N 6	H FPK 14 75/78		RADR AIF	FIELD		340 / 0 25,585	
937	INVERTER	D 6	H DIP 14 77/79	35C	COMP GB	FIELD	025C	1 / 0 19,234	
937	INVERTER	D 6	H DIP 14 77/79	35C	COMP GB	FIELD	025C	1 / 0 19,234	
937	INVERTER	D 6	H DIP 14 77/79	35C	COMP GB	FIELD	025C	2 / 0 39,760	
937	INVERTER	D 6	H DIP 14 77/79	35C	COMP GB	FIELD	025C	2 / 0 39,760	
944	GATE EXPANDABLE	B-2/N 2	H FPK 14 75/78		RADR AIF	FIELD		120 / 0 9,030	
944	GATE EXPANDABLE	B-2/N 2	H FPK 14 75/78		RADR AIF	FIELD		6 / 0 1,736	
944	GATE EXPANDABLE	B-2/N 2	H FPK 14 75/78		RADR AIF	FIELD		156 / 0 25,722	
944	GATE EXPANDABLE	B-1 2	H FPK 14 75/78		COMP AUF	FIELD		66 / 0 75,240	
944	GATE EXPANDABLE	C-1 2	H FPK 14 75/78		RADR AUF	FIELD		1782 / 0 2,031,480	
944	GATE EXPANDABLE	C-1 2	H FPK 14 75/78		RADR AUF	FIELD		33 / 0 37,620	
946	GATE	B-2/N 4	H FPK 14 75/78		RADR AIF	FIELD		280 / 0 21,070	
946	GATE	B-2/N 4	H FPK 14 75/78		RADR AIF	FIELD		30 / 0 8,680	
946	GATE	B-2/N 4	H FPK 14 75/78		RADR AIF	FIELD		442 / 0 72,879	
946	GATE	B-2/N 4	H FPK 14 75/78		RADR AUF	FIELD		18 / 0 3,720	
946	GATE	D-1 4	P DIP 14 77/79	35C	COMP GB	FIELD	025C	5 / 0 96,170	
946	GATE	D-1 4	P DIP 14 77/79	35C	COMP GB	FIELD	025C	10 / 1 198,800	2218/ 1
948	FLIP-FLOP JK	B-2/N N/R	H FPK 14 75/78		RADR AIF	FIELD		78 / 0 12,861	
951	FLIP-FLOP MONOSTABLE	D 6	H DIP 14 77/79	35C	COMP GB	FIELD	025C	1 / 0 19,234	
951	FLIP-FLOP MONOSTABLE	D 6	H DIP 14 77/79	35C	COMP GB	FIELD	025C	2 / 1 39,760	2219/ 1
958	GATE	B-2/N 4	H FPK 14 75/78		RADR AIF	FIELD		16 / 0 3,072	
958	GATE	B-2/N 4	H FPK 14 75/78		RADR AIF	FIELD		20 / 0 1,505	

DIGITAL DEVICE DATA

VARIOUS
DTL

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. CATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
958	GATE	B-2/N 4	H FPK 14: 75/78		RADR AIF	FIELD		52 / 0 8,574	
962	GATE	B-2/N 3	H FPK 14: 75/78		RADR AIF	FIELD		120 / 0 9,030	
962	GATE	B-2/N 3	H FPK 14: 75/78		RADR AIF	FIELD		26 / 0 4,287	

DIGITAL DEVICE DATA

MOTOROLA SEMI
HINILMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MTBF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
677	INVERTER	D-1 6	P DIP 16: 77/79	27C	COMP GB	FIELD	025C	2 / 0 38,468:	
677	INVERTER	D-1 6	P DIP 16: 77/79	27C	COMP GB	FIELD	025C	4 / 0 79,520:	

VARIOUS
HINILMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MTBF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
301	GATE EXPANDABLE	D-1 2	P DIP 16: 77/77	50C	PROC GF	FIELD	040C	40000 / 8 172,800,000:	
301	GATE EXPANDABLE	D-1 2	P DIP 16: 78/78	50C	PROC GF	FIELD	040C	20000 / 10 86,400,000:	
321	GATE EXPANDABLE	D-1 4	P DIP 16: 77/77	50C	PROC GF	FIELD	040C	99999 / 31 446,238,560:	
						FIELD		3334 / 0	
321	GATE EXPANDABLE	D-1 4	P DIP 16: 78/78	50C	PROC GF	FIELD	040C	18636 / 41 80,507,520:	
321	GATE EXPANDABLE	D-1 4	P DIP 16: 78/78	50C	PROC GF	FIELD	040C	16364 / 18 70,692,480:	
323	GATE EXPANDABLE	C-1 4	H FPK 16: 75/78		RADR AUF	FIELD		297 / 0 338,580:	
323	GATE EXPANDABLE	C-1 4	H FPK 16: 75/78		RADR AUF	FIELD		1287 / 1 1,466,250:	2156/ 1
323	GATE EXPANDABLE	C-1 4	H FPK 16: 75/78		RADR AUF	FIELD		33 / 0 37,620:	
323	GATE EXPANDABLE	D-1 4	P DIP 16: 77/77	50C	PROC GF	FIELD	040C	10000 / 1 43,200,000:	
323	GATE EXPANDABLE	D-1 4	P DIP 16: 78/78	50C	PROC GF	FIELD	040C	15556 / 12 67,201,920:	
334	INVERTER	D-1 6	P DIP 16: 77/77	50C	PROC GF	FIELD	040C	35000 / 13 151,200,000:	
334	INVERTER	D-1 6	P DIP 16: 78/78	50C	PROC GF	FIELD	040C	10000 / 3 43,200,000:	
334	INVERTER	D-1 6	P DIP 16: 78/78	50C	PROC GF	FIELD	040C	5862 / 17 25,323,840:	
334	INVERTER	D-1 6	P DIP 16: 78/78	50C	PROC GF	FIELD	040C	2308 / 6 9,970,560:	
334	INVERTER	D-1 6	P DIP 16: 78/78	50C	PROC GF	FIELD	040C	1772 / 14 7,655,040:	

DIGITAL DEVICE DATA

VARIOUS
MINIL

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	IMFF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
342	FLIP-FLOP MONOSTABLE	D-1 N/R	P DIP 16: 77/77	50C	PROC GF	FIELD	040C	8750 / 1 37,800,000	
342	FLIP-FLOP MONOSTABLE	D-1 N/R	P DIP 16: 78/78	50C	PROC GF	FIELD	040C	4039 / 7 17,448,480	
370	FLIP-FLOP D	D-1 24	P DIP 16: 77/77	50C	PROC GF	FIELD	040C	11667 / 2 50,401,440	
370	FLIP-FLOP D	D-1 24	P DIP 16: 78/78	50C	PROC GF	FIELD	040C	5833 / 4 25,198,560	

DIGITAL DEVICE DATA

FAIRCHILD SEMI
ECL ,HIGH SPEED:MANUFACTURER
:OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

: PART NO. :	: DEVICE FUNCTION :	: SCR. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MPEF REPORT NO. /QTY FAILED :
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:
: 95H90 :	: COUNTER :	: D :	: H DIP 16: :	: 135C :	: NR :	: LIFE :	: 125C :	: RO / 0 :	: :
:	:	: N/R :	: 00/79 :	:	: N/R :	: OP CNST :	:	: 80,000:	:
:	:	:	:	:	:	: LIFE :	:	: RO / 0 :	:
:	:	:	:	:	:	: FM :	:	:	:
: 95H90 :	: COUNTER :	: D :	: H DIP 16: :	: 80C :	: DSPY :	: FIELD :	: 040C 55XPWR:	: 538 / 0 :	: :
:	:	: N/R :	: 77/78 :	:	: GBC :	:	:	: 699,400:	:
: 95H90 :	: COUNTER :	: D :	: H DIP 16: :	: 80C :	: DSPY :	: FIELD :	: 040C 55XPWR:	: 368 / 1 :	: :
:	:	: N/R :	: 78/79 :	:	: GBC :	:	:	: 478,400:	:

VARIOUS
ECL ,HIGH SPEED:MANUFACTURER
:OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

: PART NO. :	: DEVICE FUNCTION :	: SCR. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MPEF REPORT NO. /QTY FAILED :
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:
: 95H90 :	: COUNTER :	: B-1 :	: H DIP 16: :	: 65C :	: COMM :	: CHECK :	: -054C 055C :	: 6479 / 1 :	: 2149/ 1 :
:	:	: N/R :	: 77/79 :	:	: AI :	: TCVP :	: 14CY 2 22HZ :	: 177,222:	:
: 95H90 :	: COUNTER :	: B-1 :	: H DIP 16: :	: 65C :	: COMM :	: CHECK :	: -054C 055C :	: 1912 / 0 :	:
:	:	: N/R :	: 77/79 :	:	: AI :	: TCVP :	: 14CY 2 22HZ :	: 52,120:	:
: 95H90 :	: COUNTER :	: B-1 :	: H DIP 16: :	: 65C :	: COMM :	: CHECK :	: -054C 055C :	: 3505 / 0 :	:
:	:	: N/R :	: 77/79 :	:	: AI :	: TCVP :	: 14CY 2 22HZ :	: 96,962:	:
: 95H90 :	: COUNTER :	: B-1 :	: H DIP 16: :	: 95C :	: COMM :	: FIELD :	:	: 15 / 0 :	:
:	:	: N/R :	: 76/77 :	:	: AIF :	:	:	: 10,227:	:
: 95H90 :	: COUNTER :	: B-1 :	: H DIP 16: :	: 95C :	: COMM :	: FIELD :	:	: 10 / 0 :	:
:	:	: N/R :	: 76/77 :	:	: AIF :	:	:	: 4,191:	:
: 95H90 :	: COUNTER :	: B-1 :	: H DIP 16: :	: 95C :	: COMM :	: FIELD :	:	: 14 / 0 :	:
:	:	: N/R :	: 76/77 :	:	: AIF :	:	:	: 7,056:	:
: 95H90 :	: COUNTER :	: B-1 :	: H DIP 16: :	: 95C :	: COMM :	: FIELD :	:	: 19 / 0 :	:
:	:	: N/R :	: 76/77 :	:	: AIT :	:	:	: 19,331:	:
: 95H90 :	: COUNTER :	: D :	: H DIP 16: :	: 65C :	: COMM :	: FIELD :	: 025C :	: N/R / 0 :	:
:	:	: 8 :	: 77/78 :	:	: GF :	:	:	: 62,900:	:
: 95H90 :	: COUNTER :	: D :	: H DIP 16: :	: 65C :	: COMM :	: FIELD :	: 025C :	: N/R / 0 :	:
:	:	: 8 :	: 79/79 :	:	: GF :	:	:	: 356,226:	:

DIGITAL DEVICE DATA

FAIRCHILD SEMI ECL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO.: /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
10010	COUNTER DECADE	D 59	H DIP 16: 77/78	77C	DSPY GBC	FIELD	040C 55XPWR	2 / 0 2,600:		
10010	COUNTER DECADE	D 59	H DIP 16: 78/79	77C	DSPY GBC	FIELD	040C 55XPWR	554 / 0 720,200:		
10016	COUNTER BINARY	D 59	H DIP 16: 77/78	77C	DSPY GBC	FIELD	040C 55XPWR	4730 / 2 6,149,000:		
10016	COUNTER BINARY	D 59	H DIP 16: 78/79	77C	DSPY GBC	FIELD	040C 55XPWR	40498 / 14 52,647,400:		
11C06	FLIP-FLOP D	D 7	H DIP 16: 00/79	135C	NR N/R	LIFE OP CNST	125C	78 / 0 78,000:		
						LIFE EM		78 / 0		
11C70	FLIP-FLOP D	D 6	H DIP 16: 77/78	59C	DSPY GBC	FIELD	040C 55XPWR	2883 / 0 3,747,900:		
11C70	FLIP-FLOP D	D 6	H DIP 16: 78/79	59C	DSPY GBC	FIELD	040C 55XPWR	2304 / 0 2,995,200:		
11C90	COUNTER	D N/R	H DIP 16: 00/79	156C	NR N/R	LIFE OP CNST	125C	50 / 0 50,000:		
						LIFE EM		50 / 0		
11C90	COUNTER	D N/R	H DIP 16: 00/79	156C	NR N/R	LIFE OP CNST	125C	82 / 0 82,000:		
						LIFE EM		82 / 0		
11C90	COUNTER	D N/R	H DIP 16: 00/79	156C	NR N/R	LIFE OP CNST	125C	81 / 0 81,000:		
						LIFE EM		81 / 0		
11C90	COUNTER	D N/R	H DIP 16: 00/79	156C	NR N/R	LIFE OP CNST	125C	43 / 1 84,168:		
						LIFE EM		42 / 0		
11C90	COUNTER	D N/R	H DIP 16: 00/79	156C	NR N/R	LIFE OP CNST	125C	59 / 0 118,000:		
						LIFE EM		59 / 0		
11C90	COUNTER	D N/R	H DIP 16: 00/79	156C	NR N/R	LIFE OP CNST	125C	100 / 0 200,000:		
						LIFE EM		100 / 0		
11C90	COUNTER	D N/R	H DIP 16: 78/79	67C	DSPY GBC	FIELD	040C 55XPWR	18 / 0 23,400:		
95003	GATE	D 3	H DIP 14: 78/79	48C	DSPY GBC	FIELD	040C 55XPWR	121 / 0 157,300:		

DIGITAL DEVICE DATA

MOTOROLA SEMI
ECLMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
1001	GATE	D-1 1	P DIP 14: 77/78	52C	DSPY GBC	FIELD	040C 55XPWR	41 / 0 53,300	
1001	GATE	D-1 1	P DIP 14: 78/79	52C	DSPY GBC	FIELD	040C 55XPWR	39 / 0 50,700	
1007	GATE	D-1 3	P DIP 14: 77/78	52C	DSPY GBC	FIELD	040C 55XPWR	5021 / 0 6,527,300	
1007	GATE	D-1 3	P DIP 14: 78/79	52C	DSPY GBC	FIELD	040C 55XPWR	4188 / 0 5,444,400	
10100	GATE	D 4	H DIP 16: 77/78	51C	DSPY GBC	FIELD	040C 55XPWR	696 / 0 904,800	
10100	GATE	D 4	H DIP 16: 78/79	51C	DSPY GBC	FIELD	040C 55XPWR	15968 / 0 20,758,400	
10103	GATE	D 4	H DIP 16: 77/78	51C	DSPY GBC	FIELD	040C 55XPWR	1332 / 0 1,731,600	
10103	GATE	D 4	H DIP 16: 78/79	51C	DSPY GBC	FIELD	040C 55XPWR	8094 / 2 10,522,200	
10103	GATE	D-1 4	P DIP 16: 77/78	51C	DSPY GBC	FIELD	040C 55XPWR	63 / 0 81,900	
10103	GATE	D-1 4	P DIP 16: 78/79	51C	DSPY GBC	FIELD	040C 55XPWR	57 / 0 74,100	
10104	GATE	D-1 4	P DIP 16: 77/78	55C	DSPY GBC	FIELD	040C 55XPWR	4933 / 1 6,412,900	
10104	GATE	D-1 4	P DIP 16: 78/79	55C	DSPY GBC	FIELD	040C 55XPWR	35066 / 2 45,585,800	
10113	GATE	D 4	H DIP 16: 77/78	58C	DSPY GBC	FIELD	040C 55XPWR	328 / 0 426,400	
10113	GATE	D 4	H DIP 16: 78/79	58C	DSPY GBC	FIELD	040C 55XPWR	968 / 0 1,258,400	
10117	GATE	D 4	H DIP 16: 77/78	51C	DSPY GBC	FIELD	040C 55XPWR	768 / 0 998,400	
10117	GATE	D 4	H DIP 16: 78/79	51C	DSPY GBC	FIELD	040C 55XPWR	90 / 0 117,000	
10117	GATE	D 4	H DIP 16: 78/79	51C	DSPY GBC	FIELD	040C 55XPWR	9908 / 2 12,880,400	
10117	GATE	D-1 4	P DIP 16: 77/78	51C	DSPY GBC	FIELD	040C 55XPWR	3 / 0 3,900	
1013	FLIP-FLOP JK	D-1 10	P DIP 14: 77/78	53C	DSPY GBC	FIELD	040C 55XPWR	44559 / 9 57,926,700	
1013	FLIP-FLOP JK	D-1 10	P DIP 14: 78/79	53C	DSPY GBC	FIELD	040C 55XPWR	39896 / 8 51,864,800	
10130	LATCH D	D 14	H DIP 16: 77/78	56C	DSPY GBC	FIELD	040C 55XPWR	420 / 0 546,000	
10130	LATCH D	D 14	H DIP 16: 78/79	56C	DSPY GBC	FIELD	040C 55XPWR	1924 / 0 2,501,200	
10135	FLIP-FLOP JK	D 24	H DIP 16: 77/78	65C	DSPY GBC	FIELD	040C 55XPWR	6554 / 1 8,520,200	

DIGITAL DEVICE DATA

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PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MEF REPORT NO.: /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
10135	FLIP-FLOP JK	D 24	H DIP 16: 78/79	65C	DSPY GBC	FIELD	040C 55XPWR	74338 / 3 96,639,400	
10136	COUNTER BINARY	D 62	H DIP 16: 77/78	96C	DSPY GBC	FIELD	040C 55XRH	114 / 0 148,200	
10136	COUNTER BINARY	D 62	H DIP 16: 78/79	96C	DSPY GBC	FIELD	040C 55XPWR	867 / 1 1,127,100	
10137	COUNTER DECADE	D 76	H DIP 16: 77/78	96C	DSPY GBC	FIELD	040C 55XPWR	1892 / 0 2,459,600	
10137	COUNTER DECADE	D 76	H DIP 16: 78/79	96C	DSPY GBC	FIELD	040C 55XPWR	4194 / 0 5,452,200	
10138	COUNTER BCD	D 32	H DIP 16: 77/78	73C	DSPY GBC	FIELD	040C 55XPWR	3153 / 0 4,098,900	
10138	COUNTER BCD	D 32	H DIP 16: 78/79	73C	DSPY GBC	FIELD	040C 55XPWR	7516 / 0 9,770,800	
10141	SHIFT REG	D N/R	H DIP 16: 78/79	78C	DSPY GBC	FIELD	040C 55XPWR	120 / 0 156,000	
10158	MULTIPLEXER	D 13	H DIP 16: 77/78	60C	DSPY GBC	FIELD	040C 55XPWR	348 / 0 452,400	
10158	MULTIPLEXER	D 13	H DIP 16: 78/79	60C	DSPY GBC	FIELD	040C 55XPWR	7984 / 0 10,379,200	
10164	MULTIPLEXER	D 12	H DIP 16: 77/78	67C	DSPY GBC	FIELD	040C 55XPWR	4432 / 3 5,761,600	
10164	MULTIPLEXER	D 12	H DIP 16: 78/79	67C	DSPY GBC	FIELD	040C 55XPWR	6847 / 4 8,901,100	
10174	MULTIPLEXER	D-1 12	P DIP 16: 77/78	67C	DSPY GBC	FIELD	040C 55XPWR	670 / 0 871,000	
10174	MULTIPLEXER	D-1 12	P DIP 16: 78/79	67C	DSPY GBC	FIELD	040C 55XPWR	1342 / 0 1,744,600	
10176	FLIP-FLOP D	D-1 42	P DIP 16: 77/78	87C	DSPY GBC	FIELD	040C 55XPWR	3254 / 1 4,230,200	
10176	FLIP-FLOP D	D-1 42	P DIP 16: 78/79	87C	DSPY GBC	FIELD	040C 55XPWR	27824 / 2 36,171,200	
10178	COUNTER BINARY	D-1 32	P DIP 16: 77/78	78C	DSPY GBC	FIELD	040C 55XPWR	79 / 0 102,700	
10178	COUNTER BINARY	D-1 32	P DIP 16: 78/79	78C	DSPY GBC	FIELD	040C 55XPWR	819 / 0 1,064,700	
10195	BUFFER	D-1 6	P DIP 16: 77/78	58C	DSPY GBC	FIELD	040C 55XPWR	276 / 0 358,800	
10195	BUFFER	D-1 6	P DIP 16: 78/79	58C	DSPY GBC	FIELD	040C 55XPWR	356 / 0 462,800	
10210	GATE	D 2	H DIP 16: 77/78	57C	DSPY GBC	FIELD	040C 55XPWR	211 / 0 274,300	
10210	GATE	D 2	H DIP 16: 78/79	57C	DSPY GBC	FIELD	040C 55XPWR	836 / 0 1,086,800	
10211	GATE	D-1 2	P DIP 16: 77/78	56C	DSPY GBC	FIELD	040C 55XPWR	2139 / 1 2,780,700	

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PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MYEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
10211	GATE	D-1 2	P DIP 16: 78/79	56C	DSPY GBC	FIELD	040C 55XPWR:	9819 / 1 12,764,700	
10212	GATE	D 2	H DIP 16: 77/78	57C	DSPY GBC	FIELD	040C 55XPWR:	82 / 0 106,600	
10212	GATE	D 2	H DIP 16: 78/79	57C	DSPY GBC	FIELD	040C 55XPWR:	242 / 0 314,600	
10212	GATE	D-1 2	P DIP 16: 77/78	57C	DSPY GBC	FIELD	040C 55XPWR:	53 / 0 68,900	
10212	GATE	D-1 2	P DIP 16: 78/79	57C	DSPY GBC	FIELD	040C 55XPWR:	1435 / 0 1,865,500	
1022	FLIP-FLOP D	D-1 6	P DIP 14: 77/78	52C	DSPY GBC	FIELD	040C 55XPWR:	2196 / 0 2,854,800	
1022	FLIP-FLOP D	D-1 6	P DIP 14: 78/79	52C	DSPY GBC	FIELD	040C 55XPWR:	1891 / 0 2,458,300	
10231	FLIP-FLOP D	D-1 14	P DIP 16: 77/78	68C	DSPY GBC	FIELD	040C 55XPWR:	11036 / 1 14,346,800	
10231	FLIP-FLOP D	D-1 14	P DIP 16: 78/79	68C	DSPY GBC	FIELD	040C 55XPWR:	47528 / 8 61,786,400	
1030	GATE	D-1 16	P DIP 14: 77/78	54C	DSPY GBC	FIELD	040C 55XPWR:	3474 / 3 4,516,200	
1030	GATE	D-1 16	P DIP 14: 78/79	54C	DSPY GBC	FIELD	040C 55XPWR:	4286 / 1 5,571,800	
1031	GATE	D-1 16	P DIP 14: 77/78	54C	DSPY GBC	FIELD	040C 55XPWR:	317 / 0 412,100	
1031	GATE	D-1 16	P DIP 14: 78/79	54C	DSPY GBC	FIELD	040C 55XPWR:	279 / 0 362,700	
1032	FLIP-FLOP JK	D-1 16	P DIP 16: 77/78	59C	DSPY GBC	FIELD	040C 55XPWR:	10208 / 5 13,270,400	
1032	FLIP-FLOP JK	D-1 16	P DIP 16: 78/79	59C	DSPY GBC	FIELD	040C 55XPWR:	11044 / 3 14,357,200	
1034	FLIP-FLOP D	D-1 6	P DIP 14: 77/78	65C	DSPY GBC	FIELD	040C 55XPWR:	3889 / 4 5,055,700	
1034	FLIP-FLOP D	D-1 6	P DIP 14: 78/79	65C	DSPY GBC	FIELD	040C 55XPWR:	2526 / 3 3,283,800	
1047	GATE	D-1 4	P DIP 14: 77/78	54C	DSPY GBC	FIELD	040C 55XPWR:	2485 / 0 3,231,800	
1047	GATE	D-1 4	P DIP 14: 78/79	54C	DSPY GBC	FIELD	040C 55XPWR:	3162 / 1 4,110,600	
1048	GATE	D-1 4	P DIP 14: 77/78	59C	DSPY GBC	FIELD	040C 55XPWR:	89 / 0 115,700	
1048	GATE	D-1 4	P DIP 14: 78/79	59C	DSPY GBC	FIELD	040C 55XPWR:	72 / 0 93,600	
10501	GATE	B-2 4	H DIP 16: 77/77	65C	RADR AIU	RELDEN OPERATE		1805 / 0 58,121	
10502	GATE	B-2 4	H DIP 16: 77/77	65C	RADR AIU	RELDEN OPERATE		600 / 0 19,320	

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PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
10504	G. TE	B-2 4	H DIP 16: 77/77		RADR AIU	RELDEN OPERATE		260 / 0 8,372	
10505	GATE	B-2 3	H DIP 16: 77/77		RADR AIU	RELDEN OPERATE		1035 / 0 33,327	
10506	GATE	B-2 3	H DIP 16: 77/77		RADR AIU	RELDEN OPERATE		305 / 0 9,821	
10507	GATE	B-2 3	H DIP 16: 77/77		RADR AIU	RELDEN OPERATE		470 / 0 15,134	
10509	GATE	B-2 2	H DIP 16: 77/77		RADR AIU	RELDEN OPERATE		405 / 0 13,041	
10518	GATE	B-2 4	H DIP 16: 77/77		RADR AIU	RELDEN OPERATE		210 / 0 6,762	
10531	FLIP-FLOP D	B-2 14	H DIP 16: 77/77		RADR AIU	RELDEN OPERATE		380 / 0 12,236	
10533	LATCH BISTABLE	B-2 30	H DIP 16: 77/77		RADR AIU	RELDEN OPERATE		425 / 0 13,685	
10535	FLIP-FLOP JK	B-2 16	H DIP 16: 77/77		RADR AIU	RELDEN OPERATE		645 / 0 20,769	
10536	COUNTER BINARY	B-2 55	H DIP 16: 77/77		RADR AIU	RELDEN OPERATE		425 / 0 13,685	
10541	SHIFT REG	B-2 59	H DIP 16: 77/77		RADR AIU	RELDEN OPERATE		240 / 0 7,728	
10561	DECODER BINARY	B-2 12	H DIP 16: 77/77		RADR AIU	RELDEN OPERATE		200 / 0 6,440	
10562	DECODER BINARY	B-2 12	H DIP 16: 77/77		RADR AIU	RELDEN OPERATE		80 / 0 2,576	
10576	FLIP-FLOP D	D 42	H FPK 16: 78/79	98C	DSFY GBC	FIELD	040C 55XPWR	76 / 0 98,800	
10581	LOGIC UNIT ARITHMETIC	B-2 62	H DIP 24: 77/77		RADR AIU	RELDEN OPERATE		45 / 0 1,449	
1201	GATE	B-2 1	H DIP 14: 77/77		RADR AIU	RELDEN OPERATE		1065 / 0 34,293	
1204	GATE	B-2 2	H DIP 14: 77/77		RADR AIU	RELDEN OPERATE		1635 / 0 52,647	
1204	GATE	D 2	H DIP 14: 77/78	35C	COMM GF	FIELD	025C	N/R / 0 62,950	
1204	GATE	D 2	H DIP 14: 79/79	35C	COMM GF	FIELD	025C	N/R / 0 356,226	
1205	GATE	B-2 2	H DIP 14: 77/77		RADR AIU	RELDEN OPERATE		375 / 0 12,075	
1206	GATE	B-2 2	H DIP 14: 77/77		RADR AIU	RELDEN OPERATE		90 / 0 2,898	
1207	GATE	B-2 3	H DIP 14: 77/77		RADR AIU	RELDEN OPERATE		435 / 0 14,007	
1210	GATE	B-2 4	H DIP 14: 77/77		RADR AIU	RELDEN OPERATE		1695 / 0 54,579	

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PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
1212	GATE	B-2	H DIP 14		RADR	RELDEN		180 / 0	
		4	77/77		AIU	OPERATE		5,796	
1213	FLIP-FLOP JK	B-2/N	H FPK 14		RADR	FIELD		34 / 0	
		10	75/78		AUF			4,011	
1213	FLIP-FLOP JK	D	H DIP 14	38C	COMM	FIELD	025C	N/R / 0	
		10	77/78		GF			125,900	
1213	FLIP-FLOP JK	D	H DIP 14	38C	COMM	FIELD	025C	N/R / 0	
		10	79/79		GF			712,452	
1228	DECODER/DEMULTIPLX	B-2	H DIP 16		RADR	RELDEN		1845 / 0	
		N/R	77/77		AIU	OPERATE		59,409	
1232	FLIP-FLOP JK	B-2	H DIP 16		RADR	RELDEN		1845 / 0	
		16	77/77		AIU	OPERATE		59,409	
1242	DECODER	B-2	H DIP 16		RADR	RELDEN		30 / 0	
		8	77/77		AIU	OPERATE		966	
1259	ADDER FULL	B-2	H DIP 16		RADR	RELDEN		270 / 0	
		12	77/77		AIU	OPERATE		8,694	
1660	GATE	D	H DIP 16	53C	DSPY	FIELD	040C 55XPWR	2370 / 0	
		2	77/78		GBC			3,081,000	
1660	GATE	D	H DIP 16	53C	DSPY	FIELD	040C 55XPWR	5310 / 2	
		2	78/79		GBC			6,903,000	
1662	GATE	D	H DIP 16	65C	DSPY	FIELD	040C 55XPWR	3425 / 2	
		4	77/78		GBC			4,452,500	
1662	GATE	D	H DIP 16	65C	DSPY	FIELD	040C 55XPWR	5560 / 1	
		4	78/79		GBC			7,228,000	
1664	GATE	D	H DIP 16	65C	DSPY	FIELD	040C 55XPWR	644 / 0	
		4	77/78		GBC			837,200	
1664	GATE	D	H DIP 16	65C	DSPY	FIELD	040C 55XPWR	856 / 0	
		4	78/79		GBC			1,112,800	
1670	FLIP-FLOP D	D	H DIP 16	63C	DSPY	FIELD	040C 55XPWR	666 / 0	
		7	77/78		GBC			865,800	
1670	FLIP-FLOP D	D	H DIP 16	63C	DSPY	FIELD	040C 55XPWR	2832 / 1	
		7	78/79		GBC			3,681,600	
1674	GATE	D	H DIP 16	63C	DSPY	FIELD	040C 55XPWR	395 / 0	
		3	77/78		GBC			513,500	
1674	GATE	D	H DIP 16	63C	DSPY	FIELD	040C 55XPWR	783 / 2	
		3	78/79		GBC			1,017,900	
1690	FLIP-FLOP D	D	H DIP 16	61C	DSPY	FIELD	040C 55XPWR	89 / 0	
		6	77/78		GBC			115,700	
1690	FLIP-FLOP D	D	H DIP 16	61C	DSPY	FIELD	040C 55XPWR	72 / 0	
		6	78/79		GBC			93,600	

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PLESSEY ECL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE			PART HOURS		
8602	COUNTER	B-1 N/R	H CAN 77/79	8 71C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	6479 / 0 177,222			
8602	COUNTER	B-1 N/R	H CAN 77/79	8 71C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	1912 / 0 52,120			
8602	COUNTER	B-1 N/R	H CAN 77/79	8 71C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	3505 / 0 96,962			
8602	COUNTER	B-1 N/R	H CAN 76/77	8 65C	COMM AIF	FIELD		15 / 0 10,227			
8602	COUNTER	B-1 N/R	H CAN 76/77	8 65C	COMM AIF	FIELD		10 / 0 4,191			
8602	COUNTER	B-1 N/R	H CAN 76/77	8 65C	COMM AIF	FIELD		14 / 0 7,056			
8602	COUNTER	B-1 N/R	H CAN 76/77	8 65C	COMM AIT	FIELD		19 / 0 19,331			
8641	DIVIDER PROGRAMMABLE	D 28	H DIP 77/78	16 63C	DSPY GBC	FIELD	040C 55XPWR	333 / 1 432,000			
8641	DIVIDER PROGRAMMABLE	D 28	H DIP 78/79	16 63C	DSPY GBC	FIELD	040C 55XPWR	578 / 0 751,600			

SIGNETICS ECL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE			PART HOURS		
10102	GATE	D 4	H DIP 77/77	16 136C	NR N/R	LIFE OP DYN	125C	46 / 0 46,000			
						LIFE EM		46 / 1 2266/ 1			
10102	GATE	D 4	H DIP 77/77	16 136C	NR N/R	LIFE OP DYN	125C	49 / 0 49,000			
						LIFE EM		49 / 0			
10102	GATE	D 4	H DIP 77/77	16 161C	NR N/R	LIFE STGLIFE	150C	93 / 0 93,000			
						LIFE EM		93 / 0			
10102	GATE	D 4	H DIP 77/77	16 311C	NR N/R	LIFE STGLIFE	300C	95 / 0 95,000			
						LIFE EM		95 / 0			
10105	GATE	D 3	H DIP 77/77	16 133C	NR N/R	LIFE OP DYN	125C	46 / 0 46,000			

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PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MTBF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
						LIFE EM		46 / 0	
10105	GATE	D 3	H DIP 16: 77/77	158C	NR N/R	LIFE STGLIFE	150C	46 / 0 46,000	
						LIFE EM		46 / 0	
10109	GATE	D 2	H DIP 16: 77/77	136C	NR N/R	LIFE OP DYN	130C	46 / 0 46,000	
						LIFE EM		46 / 1	2267/ 1
10109	GATE	D 2	H DIP 16: 77/77	136C	NR N/R	LIFE OP DYN	130C	46 / 0 46,000	
						LIFE EM		46 / 1	2268/ 1
10109	GATE	D 2	H DIP 16: 77/77	156C	NR N/R	LIFE STGLIFE	150C	102 / 0 102,000	
						LIFE EM		102 / 0	
10109	GATE	D 2	H DIP 16: 77/77	131C	NR N/R	LIFE REVBIAS	125C	53 / 0 53,000	
						LIFE EM		53 / 0	
10110	GATE	D 2	H DIP 16: 77/77	166C	NR N/R	LIFE STGLIFE	150C	56 / 0 46,000	
						LIFE EM		56 / 0	
10110	GATE	D 2	H DIP 16: 77/77	141C	NR N/R	LIFE REVBIAS	125C	46 / 0 46,000	
						LIFE EM		46 / 0	
10131	FLIP-FLOP D	D 14	H DIP 16: 77/77	149C	NR N/R	LIFE OP DYN	125C	46 / 0 46,000	
						LIFE EM		46 / 0	
10131	FLIP-FLOP D	D 14	H DIP 16: 77/77	174C	NR N/R	LIFE STGLIFE	150C	92 / 0 92,000	
						LIFE EM		92 / 0	
10131	FLIP-FLOP D	D 14	H DIP 16: 77/77	149C	NR N/R	LIFE REVBIAS	125C	77 / 0 77,000	
						LIFE EM		77 / 1	2269/ 1
10133	LATCH D	D 30	H DIP 16: 77/77	155C	NR N/R	LIFE OP DYN	125C	46 / 0 46,000	
						LIFE EM		46 / 0	

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SIGNETICS ECL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO.: /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
10133	LATCH D	D 30	H DIP 16: 77/77	180C	NR N/R	LIFE STGLIFE	150C	46 / 0 46,000		
						LIFE EM		46 / 0		
10141	SHIFT REG	D N/R	H DIP 16: 77/77	167C	NR N/R	LIFE OP DYN	125C	46 / 0 46,000		
						LIFE EM		46 / 2	2271/	1
									2270/	1
10141	SHIFT REG	D N/R	H DIP 16: 77/77	342C	NR N/R	LIFE STGLIFE	300C	49 / 0 49,000		
						LIFE EM		49 / 1	2272/	1
10141	SHIFT REG	D N/R	H DIP 16: 77/77	192C	NR N/R	LIFE STGLIFE	150C	46 / 0 46,000		
						LIFE EM		46 / 2	2273/	1
									2274/	1
10164	MULTIPLEXER	D 12	H DIP 16: 77/77	155C	NR N/R	LIFE OP DYN	125C	90 / 0 90,000		
						LIFE EM		90 / 0		
10164	MULTIPLEXER	D 12	H DIP 16: 77/77	155C	NR N/R	LIFE OP DYN	125C	47 / 0 95,000	2275/	1
						LIFE EM		47 / 1		
10164	MULTIPLEXER	D 12	H DIP 16: 77/77	155C	NR N/R	LIFE OP DYN	125C	48 / 0 48,000		
						LIFE EM		48 / 1		
10164	MULTIPLEXER	D 12	H DIP 16: 77/77	155C	NR N/R	LIFE OP DYN	125C	49 / 0 49,000		
						LIFE EM		49 / 7	2277/	1
									2278/	6
10164	MULTIPLEXER	D 12	H DIP 16: 77/77	155C	NR N/R	LIFE OP DYN	125C	77 / 0 78,000		
						LIFE EM		77 / 3	2279/	3
10164	MULTIPLEXER	D 12	H DIP 16: 77/77	180C	NR N/R	LIFE STGLIFE	150C	47 / 0 95,000		
						LIFE EM		47 / 0		

DIGITAL DEVICE DATA

SIGNETICS ECL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER			
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
10164	MULTIPLEXER	D 12	H DIP 16: 77/77	180C	NR N/R	LIFE STGLIFE	150C	185 / 0 185,000	
						LIFE EM		185 / 0	
10164	MULTIPLEXER	D 12	H DIP 16: 77/77	330C	NR N/R	LIFE STGLIFE	300C	48 / 0 48,000	
						LIFE EM		48 / 1	2280/ 1
10164	MULTIPLEXER	D 12	H DIP 16: 77/77	330C	NR N/R	LIFE STGLIFE	300C	54 / 0 54,000	
						LIFE EM		54 / 0	
10176	FLIP-FLOP D	NONE 42	N/R DIP 16: 77/77	175C	NR N/R	LIFE STGLIFE	150C	46 / 0 46,000	
						LIFE EM		46 / 0	

VARIOUS ECL		:MANUFACTURER :OPERATIONAL TYPE					RELIABILITY ANALYSIS CENTER				
: PART NO.	: DEVICE FUNCTION	: SCR.N. CLASS	: PACKAGE/ PINS	: JCT.* TEMP.	: EQUIP. TYPE	: DATA CLASS.	: STRESS LEVEL	: #TESTED/ #FAILED	: MPEF REPORT NO. /QTY FAILED	:	
:	: CIRCUIT FUNCTION	: NO. GATES	: TEST DATE	:	: APPL. ENV.	: TEST TYPE	:	: PART HOURS	:	:	
: 1004	: GATE	: D-1	: P DIP 14:	: 50C	: DSPY	: FIELD	: 040C 55XPWR:	: 15262 / 6 :	:	:	
:	:	: 2	: 77/78	:	: GBC	:	:	: 19,840,600:	:	:	
: 1004	: GATE	: D-1	: P DIP 14:	: 50C	: DSPY	: FIELD	: 040C 55XPWR:	: 14365 / 13 :	:	:	
:	:	: 2	: 78/79	:	: GBC	:	:	: 18,674,500:	:	:	
: 1010	: GATE	: D-1	: P DIP 14:	: 50C	: DSPY	: FIELD	: 040C 55XPWR:	: 47720 / 7 :	:	:	
:	:	: 4	: 77/78	:	: GBC	:	:	: 62,036,000:	:	:	
: 1010	: GATE	: D-1	: P DIP 14:	: 50C	: DSPY	: FIELD	: 040C 55XPWR:	: 45824 / 5 :	:	:	
:	:	: 4	: 78/79	:	: GBC	:	:	: 59,571,200:	:	:	
: 10101	: GATE	: D	: H DIP 16:	: 45C	: COMP	: FIELD	: 035C	: 5000 / 1 :	:	:	
:	:	: 4	: 77/77	:	: GBC	:	:	: 21,600,000:	:	:	
: 10101	: GATE	: D	: H DIP 16:	: 45C	: COMP	: FIELD	: 035C	: 5962 / 3 :	:	:	
:	:	: 4	: 78/78	:	: GBC	:	:	: 25,755,840:	:	:	
: 10101	: GATE	: D-1	: P DIP 16:	: 50C	: DSPY	: FIELD	: 040C 55XPWR:	: 3828 / 1 :	:	:	
:	:	: 4	: 77/78	:	: GBC	:	:	: 4,976,400:	:	:	
: 10101	: GATE	: D-1	: P DIP 16:	: 50C	: DSPY	: FIELD	: 040C 55XPWR:	: 10215 / 0 :	:	:	
:	:	: 4	: 78/79	:	: GBC	:	:	: 13,279,500:	:	:	
: 10102	: GATE	: D	: H DIP 16:	: 45C	: COMP	: FIELD	: 035C	: 5000 / 1 :	:	:	
:	:	: 4	: 78/78	:	: GBC	:	:	: 21,600,000:	:	:	
: 10102	: GATE	: D	: H DIP 16:	: 45C	: COMP	: FIELD	: 035C	: 10000 / 1 :	:	:	
:	:	: 4	: 77/77	:	: GBC	:	:	: 43,200,000:	:	:	

DIGITAL DEVICE DATA

VARIOUS ECL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE			PART HOURS		
10102	GATE	D-1	P DIP 16	50C	DSPY	FIELD	040C	55XPWR: 44129 / 13			
		4	77/78		GBC			57,367,700			
10102	GATE	D-1	P DIP 16	50C	DSPY	FIELD	040C	55XPWR: 99999 / 21			
		4	78/79		GBC			135,128,500			
						FIELD		3946 / 0			
10104	GATE	D	H DIP 16	50C	COMP	FIELD	035C	15000 / 2			
		4	78/78		GBC			6,480,000			
10106	GATE	D-1	P DIP 16	47C	DSPY	FIELD	040C	55XPWR: 10785 / 0			
		3	77/78		GBC			14,020,500			
10106	GATE	D-1	P DIP 16	47C	DSPY	FIELD	040C	55XPWR: 14192 / 2			
		3	78/79		GBC			18,449,600			
10107	GATE	D-1	P DIP 16	50C	DSPY	FIELD	040C	55XPWR: 10327 / 2			
		3	77/78		GBC			13,425,100			
10107	GATE	D-1	P DIP 16	50C	DSPY	FIELD	040C	55XPWR: 16711 / 5			
		3	78/79		GBC			21,724,300			
10109	GATE	D-1	P DIP 16	45C	DSPY	FIELD	040C	55XPWR: 16376 / 10			
		2	77/78		GBC			21,288,800			
10109	GATE	D-1	P DIP 16	45C	DSPY	FIELD	040C	55XPWR: 26046 / 7			
		2	78/79		GBC			33,859,800			
10110	GATE	D-1	P DIP 16	55C	DSPY	FIELD	040C	55XPWR: 2279 / 0			
		2	77/78		GBC			2,962,700			
10110	GATE	D-1	P DIP 16	55C	DSPY	FIELD	040C	55XPWR: 3474 / 0			
		2	78/79		GBC			4,516,200			
10111	GATE	D-1	P DIP 16	55C	DSPY	FIELD	040C	55XPWR: 4545 / 0			
		2	77/78		GBC			5,908,500			
10111	GATE	D-1	P DIP 16	55C	DSPY	FIELD	040C	55XPWR: 3817 / 1			
		2	78/79		GBC			4,962,100			
10119	GATE	D-1	P DIP 16	50C	DSPY	FIELD	040C	55XPWR: 556 / 0			
		4	77/78		GBC			722,800			
10119	GATE	D-1	P DIP 16	50C	DSPY	FIELD	040C	55XPWR: 681 / 0			
		4	78/79		GBC			885,300			
10121	GATE	D-1	P DIP 16	50C	DSPY	FIELD	040C	55XPWR: 426 / 0			
		4	77/78		GBC			553,800			
10121	GATE	D-1	P DIP 16	50C	DSPY	FIELD	040C	55XPWR: 612 / 0			
		4	78/79		GBC			795,600			
10131	FLIP-FLOP D	D	H DIP 16	55C	COMP	FIELD	035C	5000 / 1			
		14	77/77		GBC			21,600,000			
10131	FLIP-FLOP D	D	H DIP 16	55C	COMP	FIELD	035C	10000 / 1			
		14	78/78		GBC			43,200,000			
10131	FLIP-FLOP D	D-1	P DIP 16	60C	DSPY	FIELD	040C	55XPWR: 44209 / 18			
		14	77/78		GBC			57,471,700			
10131	FLIP-FLOP D	D-1	P DIP 16	60C	DSPY	FIELD	040C	55XPWR: 94850 / 12			
		14	78/79		GBC			123,305,000			
10133	LATCH MONOSTABLE	D	H DIP 16	63C	COMP	FIELD	035C	6666 / 2			
		30	77/77		GBC			28,797,120			

DIGITAL DEVICE DATA

VARIOUS ECL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEP REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
10133	LATCH MONOSTABLE	D 30	H DIP 16: 78/78	63C	COMP GBC	FIELD	035C	6666 / 2 28,797,120		
10136	COUNTER BINARY	D 62	H DIP 16: 77/77	91C	COMP GBC	FIELD	035C	1428 / 2 6,168,960		
1014	FLIP-FLOP RS	D-1 16	P DIP 14: 77/78	55C	DSPY GBC	FIELD	040C 55XPWR	1176 / 0 1,528,800		
1014	FLIP-FLOP RS	D-1 16	P DIP 14: 78/79	55C	DSPY GBC	FIELD	040C 55XPWR	1394 / 0 1,812,200		
10141	SHIFT R/C	D N/R	H DIP 16: 77/77	72C	COMP GBC	FIELD	035C	625 / 1 2,700,000		
10141	SHIFT REG	D N/R	H DIP 16: 78/78	72C	COMP GBC	FIELD	035C	455 / 1 1,965,600		
1015	FLIP-FLOP RS	D-1 16	P DIP 14: 77/78	54C	DSPY GBC	FIELD	040C 55XPWR	176 / 0 228,800		
1015	FLIP-FLOP RS	D-1 16	P DIP 14: 78/79	54C	DSPY GBC	FIELD	040C 55XPWR	81 / 0 105,300		
1016	FLIP-FLOP RS	D-1 16	P DIP 14: 77/78	54C	DSPY GBC	FIELD	040C 55XPWR	1335 / 0 1,735,500		
1016	FLIP-FLOP RS	D-1 16	P DIP 14: 78/79	54C	DSPY GBC	FIELD	040C 55XPWR	1072 / 1 1,393,600		
10162	DECODER BINARY	D-1 12	P DIP 16: 78/79	71C	DSPY GBC	FIELD	040C 55XPWR	22 / 0 28,600		
1024	GATE EXPANDABLE	D-1 2	P DIP 14: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	4515 / 4 5,869,500		
1024	GATE EXPANDABLE	D-1 2	P DIP 14: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	3861 / 2 5,019,300		
1027	FLIP-FLOP JK	D-1 10	P DIP 14: 77/78	65C	DSPY GBC	FIELD	040C 55XPWR	13985 / 3 18,180,500		
1027	FLIP-FLOP JK	D-1 10	P DIP 14: 78/79	65C	DSPY GBC	FIELD	040C 55XPWR	12787 / 6 16,623,100		
1033	FLIP-FLOP RS	D-1 16	P DIP 14: 77/78	54C	DSPY GBC	FIELD	040C 55XPWR	593 / 0 770,900		
1033	FLIP-FLOP RS	D-1 16	P DIP 14: 78/79	54C	DSPY GBC	FIELD	040C 55XPWR	526 / 0 683,800		
1660S	GATE	C-1 2	H FPK 14: 75/78	85C	RADR AUF	FIELD		66 / 0 75,240		
1663S	GATE	C-1 4	H FPK 14: 75/78	85C	RADR AUF	FIELD		198 / 1 224,880	2157/ 1	
1671	FLIP-FLOP D	C-1 6	H FPK 14: 75/78	85C	RADR AUF	FIELD		198 / 1 224,880	2158/ 1	

DIGITAL DEVICE DATA

FAIRCHILD SEMI
ECL . . . ISOPHARMMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MTEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
100102	GATE	D	H FPK 24: 135C	NR	LIFE	125C	49 / 0		
		6	00/79	N/R	OP CNST		98,000:		
					LIFE		49 / 0		
					EM				
100102	GATE	D-1	P DIP 24: 110C	NR	LIFE	100C	120 / 0		
		6	00/79	N/R	OP CNST		60,000:		
					LIFE		120 / 0		
					EM				
100117	GATE	D	H FPK 24: 135C	NR	LIFE	125C	120 / 1		
		9	00/79	N/R	OP CNST		23,000:		
					LIFE		119 / 0		
					EM				
100118	GATE	B-2	H FPK 24: 77/77	RADR	RELDEN		875 / 0		
		6		AIU	OPERATE		28,175:		
100131	FLIP-FLOP D	D	H FPK 24: 135C	NR	LIFE	125C	20 / 1		
		11	00/79	N/R	OP CNST		38,168:		
					LIFE		19 / 0		
					EM				
100131	FLIP-FLOP D	D	H FPK 24: 135C	NR	LIFE	125C	62 / 0		
		11	00/79	N/R	OP CNST		124,000:		
					LIFE		62 / 0		
					EM				
100131	FLIP-FLOP D	D	H FPK 24: 135C	NR	LIFE	125C	50 / 0		
		11	00/79	N/R	OP CNST		100,000:		
					LIFE		50 / 0		
					EM				
100158	SHIFT REG	D	H FPK 24: 135C	NR	LIFE	125C	34 / 0		
		N/R	00/79	N/R	OP CNST		51,000:		
					LIFE		34 / 0		
					EM				
11C01	GATE	D	H FPK 16: 141C	NR	LIFE	125C	24 / 0		
		2	00/79	N/R	OP CNST		50,304:		
					LIFE		24 / 0		
					EM				
11C01	GATE	D	H FPK 16: 141C	NR	LIFE	125C	26 / 0		
		2	00/79	N/R	OP CNST		39,000:		
					LIFE		26 / 0		
					EM				
11C01	GATE	D	H FPK 16: 141C	NR	LIFE	125C	60 / 0		
		2	00/79	N/R	OP CNST		120,000:		
					LIFE		60 / 0		
					EM				
11C01	GATE	D	H FPK 16: 141C	NR	LIFE	125C	57 / 0		
		2	00/79	N/R	OP CNST		114,000:		
					LIFE		57 / 0		
					EM				

DIGITAL DEVICE DATA

FAIRCHILD SEMI
ECL , ISOPLANARMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
11C01	GATE	D 2	H FPK 16: 00/79	141C	NR N/R	LIFE OP CNST	125C	65 / 0 130,000	
						LIFE EM		65 / 0	
11C01	GATE	D 2	H FPK 16: 00/79	141C	NR N/R	LIFE OP CNST	125C	50 / 0 100,000	
						LIFE EM		50 / 0	
11C01	GATE	D 2	H FPK 16: 00/79	141C	NR N/R	LIFE OP CNST	125C	26 / 0 52,000	
						LIFE EM		26 / 0	
11C01	GATE	D 2	H FPK 16: 00/79	116C	NR N/R	LIFE OP CNST	100C	100 / 0 100,000	
						LIFE EM		100 / 0	
11C01	GATE	D 2	H DIP 16: 00/79	260C	NR N/R	LIFE OP CNST	250C	49 / 0 24,500	
						LIFE EM		49 / 0	
11C01	GATE	D 2	H DIP 16: 00/79	260C	NR N/R	LIFE OP CNST	250C	50 / 1 24,500	2311/ 1
						LIFE EM		49 / 0	

DIGITAL DEVICE DATA

FAIRCHILD SEMI IIL ,SCHOTTKY		,ISOPLANAR		MANUFACTURER OPERATIONAL TYPE		RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MTEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE			PART HOURS		
9405A	REG LOGIC UNIT	D N/R	H DIP 24 00/78	149C	NR N/R	LIFE OP CNST	125C	48 / 0 48,000			
						LIFE EM		48 / 0			
9405A	REG LOGIC UNIT	D N/R	H DIP 24 00/78	149C	NR N/R	LIFE OP CNST	125C	48 / 0 96,000			
						LIFE EM		48 / 0			
9405A	REG LOGIC UNIT	D N/R	H DIP 24 00/79	149C	NR N/R	LIFE OP CNST	125C	39 / 1 38,168	2312/ 1		
						LIFE EM		38 / 0			
9405A	REG LOGIC UNIT	D N/R	H DIP 24 00/78	260C	NR N/R	LIFE OP CNST	250C	24 / 0 7,968			
						LIFE EM		24 / 0			
9405A	REG LOGIC UNIT	D N/R	H DIP 36 00/79	145C	NR N/R	LIFE OP CNST	125C	65 / 0 130,000			
						LIFE EM		65 / 0			
9405A	REG LOGIC UNIT	D-1 N/R	P DIP 24 00/78	95C	NR N/R	LIFE RHRB	085C 85%RH	48 / 0 48,000			
						LIFE EM		48 / 0			
9405A	REG LOGIC UNIT	D-1 N/R	P DIP 24 00/78	110C	NR N/R	LIFE OP CNST	100C	48 / 0 48,000			
						LIFE EM		48 / 0			
9405A	REG LOGIC UNIT	D-1 N/R	P DIP 24 00/78	95C	NR N/R	LIFE RHRB	085C 95%RH	48 / 0 96,000			
						LIFE EM		48 / 0			
9405A	REG LOGIC UNIT	D-1 N/R	P DIP 24 00/78	110C	NR N/R	LIFE OP CNST	100C	47 / 0 86,104			
						LIFE EM		47 / 0			
9405A	REG LOGIC UNIT	D-1 N/R	P DIP 24 00/78	110C	NR N/R	LIFE OP CNST	100C	48 / 0 96,000			
						LIFE EM		48 / 0			
9405A	REG LOGIC UNIT	D-1 N/R	P DIP 24 00/78	110C	NR N/R	LIFE OP CNST	100C	48 / 0 48,000			
						LIFE EM		48 / 0			
9405A	REG LOGIC UNIT	D-1 N/R	P DIP 24 00/78	110C	NR N/R	LIFE OP CNST	100C	48 / 0 96,000			
						LIFE EM		48 / 0			

DIGITAL DEVICE DATA

FAIRCHILD SEMI		MANUFACTURER		RELIABILITY ANALYSIS CENTER						
11L SCHOTTKY		,ISOPLANAR		OPERATIONAL TYPE						
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
						LIFE		48 / 0		
						EM				

DIGITAL DEVICE DATA

MOTOROLA SEMI
RTLMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. :/QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
815	GATE	D-1	P DIP 14	44C	DSPY	FIELD	040C 55XPWR:	421 / 0	547,300:
		2	77/78		GBC				
815	GATE	D-1	P DIP 14	44C	DSPY	FIELD	040C 55XPWR:	2320 / 1	3,016,000:
		2	78/79		GBC				
816	FLIP-FLOP JK	D-1	P DIP 14	49C	DSPY	FIELD	040C 55XPWR:	71 / 0	92,300:
		8	77/78		GBC				
816	FLIP-FLOP JK	D-1	P DIP 14	49C	DSPY	FIELD	040C 55XPWR:	69 / 0	89,700:
		8	78/79		GBC				
817	GATE	D-1	P DIP 14	43C	DSPY	FIELD	040C 55XPWR:	2937 / 3	3,818,100:
		4	77/78		GBC				
817	GATE	D-1	P DIP 14	43C	DSPY	FIELD	040C 55XPWR:	3457 / 5	4,494,100:
		4	78/79		GBC				
824	GATE	D-1	P DIP 14	45C	DSPY	FIELD	040C 55XPWR:	913 / 0	1,186,900:
		4	77/78		GBC				
824	GATE	D-1	P DIP 14	45C	DSPY	FIELD	040C 55XPWR:	891 / 4	1,158,300:
		4	78/79		GBC				
889	INVERTER	D-1	P DIP 14	45C	DSPY	FIELD	040C 55XPWR:	421 / 0	547,300:
		6	77/78		GBC				
889	INVERTER	D-1	P DIP 14	45C	DSPY	FIELD	040C 55XPWR:	411 / 3	534,300:
		6	78/79		GBC				

DIGITAL DEVICE DATA

FAIRCHILD SEMI		MANUFACTURER				RELIABILITY ANALYSIS CENTER				
TTL ,HIGH SPEED		OPERATIONAL TYPE								
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. :/QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
93H00	SHIFT REG	B-1/JB: 40	H DIP 16: 77/79	61C	RADR GF	FIELD	025C	305 / 0	4,172,400	
93H00	SHIFT REG	B-1/JB: 40	H DIP 16: 79/79	61C	RADR GF	FIELD	025C	305 / 0	1,317,600	

MOTOROLA SEMI		MANUFACTURER				RELIABILITY ANALYSIS CENTER				
TTL ,HIGH SPEED		OPERATIONAL TYPE								
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. :/QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
3003	GATE	D-1: 4	P DIP 14: 77/78	56C	DSPY GBC	FIELD	040C 55XPWR	3313 / 1	4,306,900	
3003	GATE	D-1: 4	P DIP 14: 78/79	56C	DSPY GBC	FIELD	040C 55XPWR	3202 / 3	4,162,600	
3006	GATE	D-1: 3	P DIP 14: 77/78	49C	DSPY GBC	FIELD	040C 55XPWR	3975 / 3	5,167,500	
3006	GATE	D-1: 3	P DIP 14: 78/79	49C	DSPY GBC	FIELD	040C 55XPWR	4674 / 1	6,076,200	
3022	GATE	D-1: 4	P DIP 14: 77/78	49C	DSPY GBC	FIELD	040C 55XPWR	686 / 0	891,800	
3022	GATE	D-1: 4	P DIP 14: 78/79	49C	DSPY GBC	FIELD	040C 55XPWR	647 / 1	841,100	
3060	FLIP-FLOP D	D-1: 12	P DIP 14: 77/78	53C	DSPY GBC	FIELD	040C 55XPWR	3113 / 0	4,046,900	
3060	FLIP-FLOP D	D-1: 12	P DIP 14: 78/79	53C	DSPY GBC	FIELD	040C 55XPWR	2915 / 0	3,789,500	
3062	FLIP-FLOP JK	D-1: 16	P DIP 14: 77/78	51C	DSPY GBC	FIELD	040C 55XPWR	7950 / 2	10,335,000	
3062	FLIP-FLOP JK	D-1: 16	P DIP 14: 78/79	51C	DSPY GBC	FIELD	040C 55XPWR	9348 / 1	12,152,400	
3162	FLIP-FLOP JK	B-2/N: 16	H DIP 14: 76/77	82C	RADR AU	RELDEN TCVPC	-054C 071C 6CT 2. 27HZ	418 / 0	20,064	

SIGNETICS		MANUFACTURER				RELIABILITY ANALYSIS CENTER				
TTL ,HIGH SPEED		OPERATIONAL TYPE								
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. :/QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
54H00	GATE	X	H DIP 14: 77/77	135C	NR N/R	LIFE OP DYN	125C	44 / 0	44,000	

DIGITAL DEVICE DATA

SIGNETICS		MANUFACTURER				RELIABILITY ANALYSIS CENTER					
TTL ,HIGH SPEED		OPERATIONAL TYPE									
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILFD	MFFF REPORT NO.:/QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
						LIFE		44 / 0			
						EM					
54H00	GATE	X	H DIP 14: 77/77	160C	NR	LIFE	150C	8 / 0			
		4			N/R	STGLIFE		8,000			
						LIFE		8 / 0			
						EM					
54H01	GATE	X	H DIP 14: 77/77	135C	NR	LIFE	125C	179 / 0			
		4			N/R	OP DYN		179,000			
						LIFE		179 / 0			
						EM					
54H01	GATE	X	H DIP 14: 77/77	160C	NR	LIFE	150C	80 / 0			
		4			N/R	STGLIFE		80,000			
						LIFE		80 / 0			
						EM					
54H04	INVERTER	X	H DIP 14: 77/77	141C	NR	LIFE	125C	44 / 0			
		6			N/R	OP DYN		44,000			
						LIFE		44 / 0			
						EM					
54H04	INVERTER	X	H DIP 14: 77/77	166C	NR	LIFE	150C	7 / 0			
		6			N/R	STGLIFE		7,000			
						LIFE		7 / 0			
						EM					
54H10	GATE	X	H DIP 14: 77/77	133C	NR	LIFE	125C	44 / 0			
		3			N/R	OP DYN		44,000			
						LIFE		44 / 0			
						EM					
54H10	GATE	X	H DIP 14: 77/77	158C	NR	LIFE	150C	8 / 0			
		3			N/R	STGLIFE		8,000			
						LIFE		8 / 0			
						EM					
54H101	FLIP-FLOP JK	X	H DIP 14: 77/77	137C	NR	LIFE	125C	179 / 0			
		10			N/R	OP DYN		179,000			
						LIFE		179 / 0			
						EM					
54H101	FLIP-FLOP JK	X	H DIP 14: 77/77	162C	NR	LIFE	150C	80 / 0			
		10			N/R	STGLIFE		80,000			
						LIFE		80 / 0			
						EM					
54H103	FLIP-FLOP JK	X	H DIP 14: 77/77	148C	NR	LIFE	125C	179 / 0			
		12			N/R	OP DYN		179,000			
						LIFE		179 / 0			
						EM					
54H103	FLIP-FLOP JK	X	H DIP 14: 77/77	173C	NR	LIFE	150C	80 / 0			
		12			N/R	STGLIFE		80,000			
						LIFE		80 / 1	2281/ 1		
						EM					

DIGITAL DEVICE DATA

SIGNETICS		MANUFACTURER				RELIABILITY ANALYSIS CENTER				
TTL HIGH SPEED		OPERATIONAL TYPE								
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
54H20	GATE	X	H DIP 14: 77/77	130C	NR	LIFE	125C	44 / 0		
		2			N/R	OP DYN		44,000		
						LIFE		44 / 0		
						EM				
54H20	GATE	X	H DIP 14: 77/77	155C	NR	LIFE	150C	8 / 0		
		2			N/R	STGLIFE		8,000		
						LIFE		8 / 0		
						EM				
54H22	GATE	X	H DIP 14: 77/77	130C	NR	LIFE	125C	110 / 0		
		2			N/R	OP DYN		110,000		
						LIFE		110 / 0		
						EM				
54H22	GATE	X	H DIP 14: 77/77	150C	NR	LIFE	150C	39 / 0		
		2			N/R	STGLIFE		39,000		
						LIFE		39 / 0		
						EM				
54H30	GATE	X	H DIP 14: 77/77	128C	NR	LIFE	125C	45 / 0		
		1			N/R	OP DYN		45,000		
						LIFE		45 / 0		
						EM				
54H30	GATE	X	H DIP 14: 77/77	153C	NR	LIFE	150C	8 / 0		
		1			N/R	STGLIFE		8,000		
						LIFE		8 / 0		
						EM				
54H50	GATE EXPANDABLE	X	H DIP 14: 77/77	132C	NR	LIFE	125C	91 / 0		
		6			N/R	OP DYN		91,000		
						LIFE		91 / 0		
						EM				
54H50	GATE EXPANDABLE	X	H DIP 14: 77/77	157C	NR	LIFE	150C	55 / 0		
		6			N/R	STGLIFE		55,000		
						LIFE		55 / 0		
						EM				
54H51	GATE	X	H DIP 14: 77/77	132C	NR	LIFE	125C	91 / 0		
		6			N/R	OP DYN		91,000		
						LIFE		91 / 0		
						EM				
54H51	GATE	X	H DIP 14: 77/77	157C	NR	LIFE	150C	56 / 0		
		6			N/R	STGLIFE		56,000		
						LIFE		56 / 0		
						EM				
54H53	GATE EXPANDABLE	X	H DIP 14: 77/77	130C	NR	LIFE	125C	76 / 0		
		5			N/R	OP DYN		76,000		
						LIFE		76 / 0		
						EM				
54H53	GATE EXPANDABLE	X	H DIP 14: 77/77	155C	NR	LIFE	150C	47 / 0		
		5			N/R	STGLIFE		47,000		

DIGITAL DEVICE DATA

SIGNETICS TTL ,HIGH SPEED		MANUFACTURER OPERATIONAL TYPE			RELIABILITY ANALYSIS CENTER						
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TDO.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEP REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
						LIFE		47 / 0			
						EM					
54H54	GATE	X	H DIP 14: 77/77	130C	NR	LIFE	125C	79 / 0			
		5			N/R	OP DYN		79,000:			
						LIFE		79 / 0			
						EM					
54H54	GATE	X	H DIP 14: 77/77	155C	NR	LIFE	150C	49 / 0			
		5			N/R	STGLIFE		49,000:			
						LIFE		49 / 0			
						EM					
54H55	GATE EXPANDABLE	X	H DIP 14: 77/77	129C	NR	LIFE	125C	77 / 0			
		3			N/R	OP DYN		77,000:			
						LIFE		77 / 0			
						EM					
54H55	GATE EXPANDABLE	X	H DIP 14: 77/77	154C	NR	LIFE	150C	46 / 0			
		3			N/R	STGLIFE		46,000:			
						LIFE		46 / 0			
						EM					
54H72	FLIP-FLOP JK	X	H DIP 14: 77/77	134C	NR	LIFE	125C	74 / 0			
		8			N/R	OP DYN		74,000:			
						LIFE		74 / 0			
						EM					
54H72	FLIP-FLOP JK	X	H DIP 14: 77/77	159C	NR	LIFE	150C	13 / 0			
		8			N/R	STGLIFE		13,000:			
						LIFE		13 / 1	2282/ 1		
						EM					
54H73	FLIP-FLOP JK	X	H DIP 14: 77/77	143C	NR	LIFE	125C	74 / 0			
		16			N/R	OP DYN		74,000:			
						LIFE		74 / 0			
						EM					
54H73	FLIP-FLOP JK	X	H DIP 14: 77/77	168C	NR	LIFE	150C	12 / 0			
		16			N/R	STGLIFE		12,000:			
						LIFE		12 / 0			
						EM					
54H74	FLIP-FLOP D	D	H FPK 14: 77/77	182C	NR	LIFE	150C	45 / 0			
		12			N/R	STGLIFE		45,000:			
						LIFE		45 / 1	2283/ 1		
						EM					
54H74	FLIP-FLOP D	X	H DIP 14: 77/77	142C	NR	LIFE	125C	73 / 0			
		12			N/R	OP DYN		73,000:			
						LIFE		73 / 0			
						EM					
54H74	FLIP-FLOP D	X	H DIP 14: 77/77	167C	NR	LIFE	150C	13 / 0			
		12			N/R	STGLIFE		13,000:			
						LIFE		13 / 0			
						EM					

DIGITAL DEVICE DATA

SIGNETICS TTL ,HIGH SPEED		MANUFACTURER OPERATIONAL TYPE		RELIABILITY ANALYSIS CENTER						
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
54H76	FLIP-FLOP JK	X 16	H DIP 16: 77/77	142C	NR N/R	LIFE OP DYN	125C	179 / 0 179,000		
						LIFE EM		179 / 0		
54H76	FLIP-FLOP JK	X 16	H DIP 16: 77/77	167C	NR N/R	LIFE STGLIFE	150C	80 / 0 80,000		
						LIFE EM		80 / 0		
74H51	GATE	D 6	H DIP 14: 77/77	132C	NR N/R	LIFE OP DYN	125C	45 / 0 45,000		
						LIFE EM		45 / 0		
8H90	INVERTER	D 6	H FPK 14: 77/77	154C	NR N/R	LIFE STGLIFE	150C	40 / 0 40,000		
						LIFE EM		40 / 0		

TEXAS INSTRUMENTS TTL ,HIGH SPEED		MANUFACTURER OPERATIONAL TYPE		RELIABILITY ANALYSIS CENTER						
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
54H08	GATE	B-1/JB: 4	H DIP 14: 77/79	43C	RADR GF	FIELD	025C	4 / 0 54,720		
54H08	GATE	B-1/JB: 4	H DIP 14: 77/79	43C	RADR GF	FIELD	025C	4 / 0 54,720		
54H08	GATE	B-1/JB: 4	H DIP 14: 79/79	43C	RADR GF	FIELD	025C	4 / 0 17,280		
54H08	GATE	B-1/JB: 4	H DIP 14: 79/79	43C	RADR GF	FIELD	025C	4 / 0 17,280		
74H04	INVERTER	D-1 6	P DIP 14: 77/77	39C	INTR GBC	CHECK OPERATE	025C	1 / 0 440		
74H71	GATE JK	D-1 12	P DIP 14: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	222 / 0 288,600		
74H71	GATE JK	D-1 12	P DIP 14: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	174 / 0 226,200		
74H72	FLIP-FLOP JK	D-1 8	P DIP 14: 77/78	49C	DSPY GBC	FIELD	040C 55XPWR	1450 / 0 1,885,000		
74H72	FLIP-FLOP JK	D-1 8	P DIP 14: 78/79	49C	DSPY GBC	FIELD	040C 55XPWR	1539 / 2 2,000,700		
74H74	FLIP-FLOP D	D-1 12	P DIP 14: 77/77	33C	INTR GBC	CHECK OPERATE	025C	1 / 0 440		

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS TTL ,HIGH SPEED		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MFEF REPORT NO. : /QTY FAILED :		
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:		
: 74H76 :	: FLIP-FLOP :	: D-1 :	: P DIP 16 :	: 55C :	: DSPY :	: FIELD :	: 040C 55ZPWR :	: 1022 / 0 :	: 1,328,600 :		
:	: JK :	: 16 :	: 77/78 :	:	: GBC :	:	:	: 1,328,600 :	:		
: 74H76 :	: FLIP-FLOP :	: D-1 :	: P DIP 16 :	: 55C :	: DSPY :	: FIELD :	: 040C 55ZPWR :	: 1516 / 0 :	: 1,970,800 :		
:	: JK :	: 16 :	: 78/79 :	:	: GBC :	:	:	: 1,970,800 :	:		
: 74H87 :	: LOGIC UNIT :	: D-1 :	: P DIP 14 :	: 68C :	: DSPY :	: FIELD :	: 040C 55ZPWR :	: 1910 / 1 :	: 2,483,000 :		
:	: TRUE COMPLEMENT :	: 14 :	: 77/78 :	:	: GBC :	:	:	: 2,483,000 :	:		
: 74H87 :	: LOGIC UNIT :	: D-1 :	: P DIP 14 :	: 68C :	: DSPY :	: FIELD :	: 040C 55ZPWR :	: 2400 / 0 :	: 3,120,000 :		
:	: TRUE COMPLEMENT :	: 14 :	: 78/79 :	:	: GBC :	:	:	: 3,120,000 :	:		

VARIOUS TTL ,HIGH SPEED		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MFEF REPORT NO. : /QTY FAILED :		
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:		
: 54/74H103 :	: FLIP-FLOP :	: NONE :	: N/R DIP 14 :	: 45C :	: COMP :	: FIELD :	: 025C :	: 8 / 0 :	:		
:	: JK :	: 12 :	: 77/79 :	:	: GB :	:	:	: 153,872 :	:		
: 54/74H103 :	: FLIP-FLOP :	: NONE :	: N/R DIP 14 :	: 45C :	: COMP :	: FIELD :	: 025C :	: 16 / 2 :	: 2220/ 2 :		
:	: JK :	: 12 :	: 77/79 :	:	: GB :	:	:	: 318,080 :	:		
: 54/74H106 :	: FLIP-FLOP :	: NONE :	: N/R DIP 16 :	: 45C :	: COMP :	: FIELD :	: 025C :	: 9 / 2 :	: 2221/ 2 :		
:	: JK :	: 16 :	: 77/79 :	:	: GB :	:	:	: 173,106 :	:		
: 54/74H106 :	: FLIP-FLOP :	: NONE :	: N/R DIP 16 :	: 45C :	: COMP :	: FIELD :	: 025C :	: 18 / 0 :	:		
:	: JK :	: 16 :	: 77/79 :	:	: GB :	:	:	: 357,840 :	:		
: 54H00 :	: GATE :	: J-B :	: H DIP 14 :	:	: RADR :	: RELED :	:	: 705 / 0 :	:		
:	:	: 4 :	: 77/77 :	:	: AU :	: OPERATE :	:	: 22,708 :	:		
: 54H00 :	: GATE :	: J-B :	: H DIP 14 :	: 81C :	: RADR :	: RELED :	: -054C 071C :	: 418 / 0 :	:		
:	:	: 4 :	: 76/77 :	:	: AU :	: TCVPC :	: 6CY 2. 27HZ :	: 20,064 :	:		
: 54H00 :	: GATE :	: B-2/N :	: H DIP 14 :	:	: RADR :	: FIELD :	:	: 1922 / 0 :	:		
:	:	: 4 :	: 75/78 :	:	: AUF :	:	:	: 415,276 :	:		
: 54H00 :	: GATE :	: B-1/JB :	: H DIP 14 :	: 35C :	: RADR :	: FIELD :	: 025C :	: 11 / 0 :	:		
:	:	: 4 :	: 77/79 :	:	: GF :	:	:	: 150,480 :	:		
: 54H00 :	: GATE :	: B-1/JB :	: H DIP 14 :	: 35C :	: RADR :	: FIELD :	: 025C :	: 46 / 0 :	:		
:	:	: 4 :	: 77/79 :	:	: GF :	:	:	: 629,280 :	:		
: 54H00 :	: GATE :	: B-1/JB :	: H DIP 14 :	: 35C :	: RADR :	: FIELD :	: 025C :	: 46 / 0 :	:		
:	:	: 4 :	: 79/79 :	:	: GF :	:	:	: 198,720 :	:		
: 54H00 :	: GATE :	: B-1/JB :	: H DIP 14 :	: 35C :	: RADR :	: FIELD :	: 025C :	: 11 / 0 :	:		
:	:	: 4 :	: 79/79 :	:	: GF :	:	:	: 47,520 :	:		
: 54H00 :	: GATE :	: B-1 :	: H DIP 14 :	: 64C :	: NAVG :	: FIELD :	:	: 33 / 0 :	:		
:	:	: 4 :	: 75/78 :	:	: AIF :	:	:	: 37,620 :	:		
: 54H00 :	: GATE :	: C-1 :	: H FPK 14 :	: 81C :	: RADR :	: FIELD :	:	: 264 / 4 :	: 2159/ 1 :		
:	:	: 4 :	: 75/78 :	:	: AUF :	:	:	: 299,280 :	:		
:	:	:	:	:	:	:	:	:	: 2160/ 1 :		

DIGITAL DEVICE DATA

VARIOUS
TTL ,HIGH SPEED:MANUFACTURER
:OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEY REPORT NO.: /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
									2161/ 1
									2162/ 1
54H00	GATE	C-1	H FPK 14: 81C	75/78	RADR AUF	FIELD		120 / 1	2163/ 1
		4						4,513,800:	
54H00	GATE	C-1	H FPK 14: 81C	75/78	RADR AUF	FIELD		33 / 0	
		4						37,620:	
54H00/74H00	GATE	NONE	N/R DIP 14: 35C	77/79	COMP GB	FIELD	025C	10 / 0	
		4						192,340:	
54H00/74H00	GATE	NONE	N/R DIP 14: 35C	77/79	COMP GB	FIELD	025C	20 / 0	
		4						397,600:	
54H01	GATE	J-B	H DIP 14: 81C	77/77	RADR AIU	RELDEN OPERATE		15 / 0	
		4						483:	
54H01	GATE	B-1	H FPK 14: 81C	75/78	COMP AUF	FIELD		330 / 0	
		4						376,200:	
54H01/74H01	GATE	NONE	N/R DIP 14: 35C	77/79	COMP GB	FIELD	025C	9 / 0	
		4						173,106:	
54H01/74H01	GATE	NONE	N/R DIP 14: 35C	77/79	COMP GB	FIELD	025C	18 / 0	
		4						357,840:	
54H04	INVERTER	J-B	H DIP 14: 81C	77/77	RADR AIU	RELDEN OPERATE		2170 / 0	
		6						69,896:	
54H04	INVERTER	B-1/JB:	H DIP 14: 38C	77/79	RADR GF	FIELD	025C	1 / 0	
		6						13,680:	
54H04	INVERTER	B-1/JB:	H DIP 14: 38C	77/79	RADR GF	FIELD	025C	25 / 0	
		6						342,000:	
54H04	INVERTER	B-1/JB:	H DIP 14: 38C	77/79	RADR GF	FIELD	025C	51 / 0	
		6						697,680:	
54H04	INVERTER	B-1/JB:	H DIP 14: 38C	79/79	RADR GF	FIELD	025C	51 / 0	
		6						220,320:	
54H04	INVERTER	B-1/JB:	H DIP 14: 38C	79/79	RADR GF	FIELD	025C	1 / 0	
		6						4,320:	
54H04	INVERTER	B-1/JB:	H DIP 14: 38C	79/79	RADR GF	FIELD	025C	25 / 0	
		6						108,000:	
54H04	INVERTER	B-1	H FPK 14: 88C	75/78	COMP AUF	FIELD		1023 / 0	
		6						1,166,220:	
54H04	INVERTER	B-1	H DIP 14: 88C	75/78	COMP AUF	FIELD		165 / 0	
		6						188,100:	
54H04	INVERTER	C-1	H FPK 14: 88C	75/78	RADR AUF	FIELD		4917 / 3	2164/ 2
		6						3,603,580:	
									2165/ 1
54H04	INVERTER	C-1	H FPK 14: 88C	75/78	RADR AUF	FIELD		132 / 0	
		6						150,480:	
54H04/74H04	INVERTER	NONE	N/R DIP 14: 35C	77/79	COMP GB	FIELD	025C	7 / 0	
		6						134,638:	

DIGITAL DEVICE DATA

VARIOUS TTL ,HIGH SPEED		MANUFACTURER OPERATIONAL TYPE		RELIABILITY ANALYSIS CENTER						
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVFL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
54H04/74H04	INVERTER	NONE 6	N/R DIP 77/79	14: 35C	COMP GB	FIELD	025C	14 / 0 278,320:		
54H05/74H05	INVERTER	NONE 6	N/R DIP 77/79	14: 35C	COMP GB	FIELD	025C	4 / 0 76,936:		
54H05/74H05	INVERTER	NONE 6	N/R DIP 77/79	14: 35C	COMP GB	FIELD	025C	8 / 0 159,040:		
54H10	GATE	J-B 3	H DIP 77/77	14: 81C	RADR AIU	RELDEM OPERATE		5 / 0 161:		
54H10	GATE	J-B 3	H DIP 76/77	14: 81C	RADR AU	RELDEM TCVPC	-054C 071C 6CY 2. 27HZ	418 / 0 20,064:		
54H10	GATE	C-1 3	H FPK 75/78	14: 79C	RADR AUF	FIELD		2013 / 2 2,293,950:	2166/ 1	
									2167/ 1	
54H10	GATE	C-1 3	H FPK 75/78	14: 79C	RADR AUF	FIELD		99 / 0 112,860:		
54H10/74H10	GATE	NONE 3	N/R DIP 77/79	14: 35C	COMP GB	FIELD	025C	16 / 0 307,744:		
54H10/74H10	GATE	NONE 3	N/R DIP 77/79	14: 35C	COMP GB	FIELD	025C	32 / 1 636,160:	2222/ 1	
54H102	FLIP-FLOP JK	B-2 10	H DIP 77/77	14: 43C	RADR AIU	RELDEM OPERATE		360 / 0 11,592:		
54H106	FLIP-FLOP JK	B-1/JB 16	H DIP 77/79	16: 43C	RADR GF	FIELD	025C	1 / 0 13,680:		
54H106	FLIP-FLOP JK	B-1/JB 16	H DIP 77/79	16: 43C	RADR GF	FIELD	025C	58 / 0 793,440:		
54H106	FLIP-FLOP JK	B-1/JB 16	H DIP 77/79	16: 43C	RADR GF	FIELD	025C	10 / 0 136,800:		
54H106	FLIP-FLOP JK	B-1/JB 16	H DIP 79/79	16: 43C	RADR GF	FIELD	025C	10 / 0 43,200:		
54H106	FLIP-FLOP JK	B-1/JB 16	H DIP 79/79	16: 43C	RADR GF	FIELD	025C	1 / 0 4,320:		
54H106	FLIP-FLOP JK	B-1/JB 16	H DIP 79/79	16: 43C	RADR GF	FIELD	025C	58 / 0 250,560:		
54H11	GATE	B-1/JB 3	H DIP 77/79	14: 35C	RADR GF	FIELD	025C	2 / 0 27,360:		
54H11	GATE	B-1/JB 3	H DIP 79/79	14: 35C	RADR GF	FIELD	025C	2 / 0 8,640:		
54H11	GATE	B-2 3	H DIP 77/77	14: 35C	RADR AIU	RELDEM OPERATE		205 / 0 6,601:		
54H11/74H11	GATE	NONE 3	N/R DIP 77/79	14: 35C	COMP GB	FIELD	025C	11 / 0 211,574:		
54H11/74H11	GATE	NONE 3	N/R DIP 77/79	14: 35C	COMP GB	FIELD	025C	22 / 0 437,360:		
54H20	GATE	J-B 2	H DIP 77/77	14: 35C	RADR AIU	RELDEM OPERATE		160 / 0 5,154:		

DIGITAL DEVICE DATA

VARIOUS TTL ,HIGH SPEED		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MPEF REPORT NO. : /QTY FAILED :	
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:	
: 54H20 :	: GATE :	: C-1 :	: H FPK 14 :	: 76C :	: RADR :	: FIELD :	:	: 66 / 0 :	:	
:	:	: 2 :	: 75/78 :	:	: AUF :	:	:	: 75,240 :	:	
: 54H20 :	: GATE :	: C-1 :	: H FPK 14 :	: 76C :	: RADR :	: FIELD :	:	: 759 / 0 :	:	
:	:	: 2 :	: 75/78 :	:	: AUF :	:	:	: 865,260 :	:	
: 54H20/74H20 :	: GATE :	: NONE :	: N/R DIP 14 :	: 30C :	: COMP :	: FIELD :	: 025C :	: 17 / 0 :	:	
:	:	: 2 :	: 77/79 :	:	: GB :	:	:	: 326,978 :	:	
: 54H20/74H20 :	: GATE :	: NONE :	: N/R DIP 14 :	: 30C :	: COMP :	: FIELD :	: 025C :	: 34 / 0 :	:	
:	:	: 2 :	: 77/79 :	:	: GB :	:	:	: 675,920 :	:	
: 54H21 :	: GATE :	: R-2/N :	: H DIP 14 :	: 81C :	: RADR :	: RELDEN :	: -054C 071C :	: 627 / 0 :	:	
:	:	: 2 :	: 76/77 :	:	: AU :	: TCVPC :	: 6CY 2. 27HZ :	: 30,096 :	:	
: 54H21 :	: GATE :	: C-1 :	: H FPK 14 :	: 79C :	: RADR :	: FIELD :	:	: 7392 / 0 :	:	
:	:	: 2 :	: 75/78 :	:	: AUF :	:	:	: 8,426,880 :	:	
: 54H21 :	: GATE :	: C-1 :	: H FPK 14 :	: 79C :	: RADR :	: FIELD :	:	: 6369 / 4 :	: 2168/ 1 :	
:	:	: 2 :	: 75/78 :	:	: AUF :	:	:	: 7,257,900 :	:	
:	:	:	:	:	:	:	:	:	: 2169/ 1 :	
:	:	:	:	:	:	:	:	:	: 2170/ 1 :	
:	:	:	:	:	:	:	:	:	: 2171/ 1 :	
: 54H21/74H21 :	: GATE :	: NONE :	: N/R DIP 14 :	: 35C :	: COMP :	: FIELD :	: 025C :	: 3 / 0 :	:	
:	:	: 2 :	: 77/79 :	:	: GB :	:	:	: 57,702 :	:	
: 54H21/74H21 :	: GATE :	: NONE :	: N/R DIP 14 :	: 35C :	: COMP :	: FIELD :	: 025C :	: 6 / 4 :	: 2223/ 4 :	
:	:	: 2 :	: 77/79 :	:	: GB :	:	:	: 119,280 :	:	
: 54H22 :	: GATE :	: J-B :	: H DIP 14 :	:	: RADR :	: RELDEN :	:	: 5 / 0 :	:	
:	:	: 2 :	: 77/77 :	:	: AIU :	: OPERATE :	:	: 161 :	:	
: 54H22/74H22 :	: GATE :	: NONE :	: N/R DIP 14 :	: 30C :	: COMP :	: FIELD :	: 025C :	: 33 / 0 :	:	
:	:	: 2 :	: 77/79 :	:	: GB :	:	:	: 634,722 :	:	
: 54H22/74H22 :	: GATE :	: NONE :	: N/R DIP 14 :	: 30C :	: COMP :	: FIELD :	: 025C :	: 64 / 0 :	:	
:	:	: 2 :	: 77/79 :	:	: GB :	:	:	: 1,272,320 :	:	
: 54H30 :	: GATE :	: J-B :	: H DIP 14 :	:	: RADR :	: RELDEN :	:	: 95 / 0 :	:	
:	:	: 1 :	: 77/77 :	:	: AIU :	: OPERATE :	:	: 3,060 :	:	
: 54H30 :	: GATE :	: B-1/JB :	: H DIP 14 :	: 27C :	: RADR :	: FIELD :	: 025C :	: 22 / 0 :	:	
:	:	: 1 :	: 77/79 :	:	: GF :	:	:	: 300,960 :	:	
: 54H30 :	: GATE :	: B-1/JB :	: H DIP 14 :	: 27C :	: RADR :	: FIELD :	: 025C :	: 1 / 0 :	:	
:	:	: 1 :	: 77/79 :	:	: GF :	:	:	: 13,680 :	:	
: 54H30 :	: GATE :	: B-1/JB :	: H DIP 14 :	: 27C :	: RADR :	: FIELD :	: 025C :	: 89 / 0 :	:	
:	:	: 1 :	: 77/79 :	:	: GF :	:	:	: 1,217,520 :	:	
: 54H30 :	: GATE :	: B-1/JB :	: H DIP 14 :	: 27C :	: RADR :	: FIELD :	: 025C :	: 89 / 0 :	:	
:	:	: 1 :	: 79/79 :	:	: GF :	:	:	: 384,480 :	:	
: 54H30 :	: GATE :	: B-1/JB :	: H DIP 14 :	: 27C :	: RADR :	: FIELD :	: 025C :	: 22 / 0 :	:	
:	:	: 1 :	: 79/79 :	:	: GF :	:	:	: 95,040 :	:	
: 54H30 :	: GATE :	: B-1/JB :	: H DIP 14 :	: 27C :	: RADR :	: FIELD :	: 025C :	: 1 / 0 :	:	
:	:	: 1 :	: 79/79 :	:	: GF :	:	:	: 4,320 :	:	
: 54H30 :	: GATE :	: C-1 :	: H FPK 14 :	: 72C :	: RADR :	: FIELD :	:	: 99 / 0 :	:	
:	:	: 1 :	: 75/78 :	:	: AUF :	:	:	: 112,860 :	:	

DIGITAL DEVICE DATA

VARIOUS TTL ,HIGH SPEED		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE			PART HOURS	
54H30	GATE	C-1	H FPK 14	72C	RADR	FIELD		858 / 0		
		1	75/78		AUF			978,120		
54H30/74H30	GATE	NONE	N/R DIP 14	27C	COMP	FIELD	025C	22 / 0		
		1	77/79		GB			423,148		
54H30/74H30	GATE	NONE	N/R DIP 14	27C	COMP	FIELD	025C	44 / 0		
		1	77/79		GB			874,720		
54H40	BUFFER	J-B	H DIP 14	79C	RADR	RELDEN		425 / 0		
		2	77/77		AIU	OPERATE		13,689		
54H40	BUFFER	B-2/N	H DIP 14	79C	RADR	FIELD		31 / 0		
		2	75/78		AUF			6,698		
54H40	BUFFER	B-1/JB	H DIP 14	35C	RADR	FIELD	025C	35 / 0		
		2	77/79		GF			476,800		
54H40	BUFFER	B-1/JB	H DIP 14	35C	RADR	FIELD	025C	74 / 0		
		2	77/79		GF			1,012,320		
54H40	BUFFER	B-1/JB	H DIP 14	35C	RADR	FIELD	025C	74 / 0		
		2	79/79		GF			319,680		
54H40	BUFFER	B-1/JB	H DIP 14	35C	RADR	FIELD	025C	35 / 0		
		2	79/79		GF			151,200		
54H40	BUFFER	C-1	H FPK 14	79C	RADR	FIELD		33 / 0		
		2	75/78		AUF			37,620		
54H40	BUFFER	C-1	H FPK 14	79C	RADR	FIELD		198 / 1	2172/ 1	
		2	75/78		AUF			224,820		
54H40/74H40	BUFFER	NONE	N/R DIP 14	35C	COMP	FIELD	025C	14 / 0		
		2	77/79		GB			269,276		
54H40/74H40	BUFFER	NONE	N/R DIP 14	35C	COMP	FIELD	025C	28 / 0		
		2	77/79		GB			556,640		
54H50	GATE EXPANDABLE	J-B	H DIP 14		RADR	RELDEN		335 / 0		
		6	77/77		AIU	OPERATE		10,790		
54H51	GATE	B-1	H FPK 14	77C	COMP	FIELD		561 / 0		
		6	75/78		AUF			639,540		
54H52/74H52	GATE EXPANDABLE	NONE	N/R DIP 14	35C	COMP	FIELD	025C	1 / 0		
		5	77/79		GB			19,234		
54H52/74H52	GATE EXPANDABLE	NONE	N/R DIP 14	35C	COMP	FIELD	025C	2 / 0		
		5	77/79		GB			39,760		
54H53	GATE EXPANDABLE	D	H DIP 14	30C	COMP	FIELD	025C	3 / 0		
		5	78/78		GBC			8,640		
54H53/74H53	GATE EXPANDABLE	NONE	N/R DIP 14	30C	COMP	FIELD	025C	1 / 0		
		5	77/79		GB			19,234		
54H53/74H53	GATE EXPANDABLE	NONE	N/R DIP 14	30C	COMP	FIELD	025C	2 / 0		
		5	77/79		GB			39,760		
54H54	GATE	B-1	H FPK 14	75C	COMP	FIELD		66 / 0		
		5	75/78		AUF			75,240		
54H54/74H54	GATE	NONE	N/R DIP 14	30C	COMP	FIELD	025C	1 / 0		
		5	77/79		GB			19,324		
54H54/74H54	GATE	NONE	N/R DIP 14	30C	COMP	FIELD	025C	2 / 0		
		5	77/79		GB			39,760		

DIGITAL DEVICE DATA

VARIOUS
TTL ,HIGH SPEEDMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	INFREP REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
54H55	GATE EXPANDABLE	B-1 3	H FPK 14: 75/78	74C	RADR AUF	FIELD		198 / 0	225,720
54H60/74H60	EXPANDER	NONE 2	N/R DIP 14: 77/79	27C	COMP GB	FIELD	025C	1 / 0	19,234
54H60/74H60	EXPANDER	NONE 2	N/R DIP 14: 77/79	27C	COMP GB	FIELD	025C	2 / 0	39,760
54H62	EXPANDER	B-1 5	H DIP 14: 75/78		COMP AUF	FIELD		264 / 0	300,960
54H72	FLIP-FLOP JK	B-1 8	H FPK 14: 75/78	80C	RADR AUF	FIELD		66 / 0	75,240
54H73	FLIP-FLOP JK	B-1 16	H DIP 14: 75/78	71C	NAVG AIF	FIELD		99 / 0	112,860
54H74	FLIP-FLOP D	B-1 12	H FPK 14: 75/78	85C	COMP AUF	FIELD		1023 / 0	1,166,220
54H74	FLIP-FLOP D	B-2 12	H DIP 14: 77/77	82C	NAVG AI	RELDEN TCVPC	-054C 072C 43CY 2 60HZ	3 / 0	1,880
54H74	FLIP-FLOP D	C-1 12	H FPK 14: 75/78	89C	RADR AUF	FIELD		1353 / 0	1,542,420
54H74	FLIP-FLOP D	C-1 12	H FPK 14: 75/78	89C	RADR AUF	FIELD		1353 / 0	1,542,420
54H76	FLIP-FLOP JK	B-2/N 16	H DIP 16: 75/78	90C	RADR AUF	FIELD		34 / 0	3,472
54H87	LOGIC UNIT TRUE COMPLEMENT	B-1/JB 14	H DIP 14: 77/79	52C	RADR GF	FIELD	025C	2 / 0	27,360
54H87	LOGIC UNIT TRUE COMPLEMENT	B-1/JB 14	H DIP 14: 77/79	52C	RADR GF	FIELD	025C	16 / 0	218,880
54H87	LOGIC UNIT TRUE COMPLEMENT	B-1/JB 14	H DIP 14: 79/79	52C	RADR GF	FIELD	025C	16 / 0	69,120
54H87	LOGIC UNIT TRUE COMPLEMENT	B-1/JB 14	H DIP 14: 79/79	52C	RADR GF	FIELD	025C	2 / 0	8,640
74H00	GATE	D 4	H DIP 14: 77/79	35C	COMP GB	FIELD	025C	306 / 0	5,885,604
74H00	GATE	D 4	H DIP 14: 77/79	35C	COMP GB	FIELD	025C	620 / 1	2224/ 1 12,325,600

DIGITAL DEVICE DATA

VARIOUS TTL ,HIGH SPEED		MANUFACTURE: OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO.: /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
74H00	GATE	D-1 4	P DIP 14: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	19927 / 11 : 25,905,100:			
74H00	GATE	D-1 4	P DIP 14: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	19188 / 9 : 24,944,400:			
74H00	GATE	NONE 4	N/R DIP 14: 77/79	35C	COMP GB	FIELD	025C	14 / 0 : 269,276:			
74H00	GATE	NONE 4	N/R DIP 14: 77/79	35C	COMP GB	FIELD	025C	28 / 0 : 556,640:			
74H01	GATE	D 4	H DIP 14: 77/79	35C	COMP GB	FIELD	025C	63 / 0 : 1,211,742:			
74H01	GATE	D 4	H DIP 14: 77/79	35C	COMP GB	FIELD	025C	126 / 0 : 2,504,880:			
74H01	GATE	NONE 4	N/R DIP 14: 77/79	35C	COMP GB	FIELD	025C	4 / 0 : 76,936:			
74H01	GATE	NONE 4	N/R DIP 14: 77/79	35C	COMP GB	FIELD	025C	8 / 0 : 159,040:			
74H04	INVERTER	D 6	H DIP 14: 77/79	39C	COMP GB	FIELD	025C	416 / 2 : 8,011,344:	2225/ 2		
74H04	INVERTER	D 6	H DIP 14: 77/79	39C	COMP GB	FIELD	025C	030 / 3 : 16,500,400:	2227/ 1		
74H04	INVERTER	D-1 6	P DIP 14: 77/78	54C	DSPY GBC	FIELD	040C 55XPWR	9287 / 13 : 12,073,100:	2228/ 2		
74H04	INVERTER	D-1 6	P DIP 14: 78/79	54C	DSPY GBC	FIELD	040C 55XPWR	6242 / 2 : 8,114,600:			
74H04	INVERTER	NONE 6	N/R DIP 14: 77/79	39C	COMP GB	FIELD	025C	101 / 0 : 1,942,634:			
74H04	INVERTER	NONE 6	N/R DIP 14: 77/79	39C	COMP GB	FIELD	025C	202 / 0 : 4,015,760:			
74H05	INVERTER	D 6	H DIP 14: 77/79	39C	COMP GB	FIELD	025C	32 / 2 : 615,488:	2229/ 1		
74H05	INVERTER	D 6	H DIP 14: 77/79	39C	COMP GB	FIELD	025C	64 / 0 : 1,272,320:	2230/ 1		
74H08	GATE	D-1 4	P DIP 14: 77/78	54C	DSPY GBC	FIELD	040C 55XPWR	4664 / 1 : 6,063,200:			
74H08	GATE	D-1 4	P DIP 14: 78/79	54C	DSPY GBC	FIELD	040C 55XPWR	6967 / 0 : 9,057,100:			
74H10	GATE	D 3	H DIP 14: 77/79	32C	COMP GB	FIELD	025C	175 / 1 : 3,365,950:	2231/ 1		
74H10	GATE	D 3	H DIP 14: 77/79	32C	COMP GB	FIELD	025C	354 / 0 : 7,037,520:			

DIGITAL DEVICE DATA

VARIOUS
TTL ,HIGH SPEEDMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
74H10	GATE	D-1 3	P DIP 14: 77/78	47C	DSPY GBC	FIELD	040C 55XPWR	6688 / 0 8,694,400	
74H10	GATE	D-1 3	P DIP 14: 78/79	47C	DSPY GBC	FIELD	040C 55XPWR	8240 / 0 10,712,000	
74H10	GATE	NONE 3	N/R DIP 14: 77/79	47C	COMP GB	FIELD	025C	10 / 0 192,340	
74H10	GATE	NONE 3	N/R DIP 14: 77/79	47C	COMP GB	FIELD	025C	20 / 0 397,600	
74H101	FLIP-FLOP JK	D 10	H DIP 14: 77/79	35C	COMP GB	FIELD	025C	1 / 0 19,234	
74H101	FLIP-FLOP JK	D 10	H DIP 14: 77/79	35C	COMP GB	FIELD	025C	2 / 0 39,760	
74H102	FLIP-FLOP JK	D 10	H DIP 14: 77/79	35C	COMP GB	FIELD	025C	12 / 0 230,808	
74H102	FLIP-FLOP JK	D 10	H DIP 14: 77/79	35C	COMP GB	FIELD	025C	24 / 0 477,120	
74H102	FLIP-FLOP JK	D-1 10	P DIP 14: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	8295 / 0 10,783,500	
74H102	FLIP-FLOP JK	D-1 10	P DIP 14: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	11605 / 1 15,086,500	
74H103	FLIP-FLOP JK	D 12	H DIP 14: 77/79	45C	COMP GB	FIELD	025C	199 / 0 3,827,566	
74H103	FLIP-FLOP JK	D 12	H DIP 14: 77/79	45C	COMP GB	FIELD	025C	396 / 0 7,872,480	
74H103	FLIP-FLOP JK	D-1 12	P DIP 14: 77/78	60C	DSPY GBC	FIELD	040C 55XPWR	6238 / 1 8,109,400	
74H103	FLIP-FLOP JK	D-1 12	P DIP 14: 78/79	60C	DSPY GBC	FIELD	040C 55XPWR	6538 / 0 8,525,400	
74H103	FLIP-FLOP JK	NONE 12	N/R DIP 0: 77/79	45C	COMP GB	FIELD	025C	4 / 3 76,936	2232/ 3
74H103	FLIP-FLOP JK	NONE 12	N/R DIP 0: 77/79	45C	COMP GB	FIELD	025C	8 / 0 159,040	
74H106	FLIP-FLOP JK	D 16	H DIP 16: 77/79	45C	COMP GB	FIELD	025C	71 / 0 1,365,614	
74H106	FLIP-FLOP JK	D 16	H DIP 16: 77/79	45C	COMP GB	FIELD	025C	142 / 1 2,822,960	2233/ 1
74H106	FLIP-FLOP JK	D-1 16	P DIP 16: 77/78	60C	DSPY GBC	FIELD	040C 55XPWR	8438 / 10 10,969,400	
74H106	FLIP-FLOP JK	D-1 16	P DIP 16: 78/79	60C	DSPY GBC	FIELD	040C 55XPWR	6635 / 3 8,625,500	
74H106	FLIP-FLOP JK	NONE 16	N/R DIP 16: 77/79	45C	COMP GB	FIELD	025C	15 / 0 288,510	
74H106	FLIP-FLOP JK	NONE 16	N/R DIP 16: 77/79	45C	COMP GB	FIELD	025C	30 / 22 596,400	2234/ 22
74H11	GATE	D 3	H DIP 14: 77/79	37C	COMP GB	FIELD	025C	305 / 0 5,866,370	

DIGITAL DEVICE DATA

VARIOUS
TTL ,HIGH SPEED:MANUFACTURER
:OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO.: /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
74H11	GATE	D 3	H DIP 14: 77/79	37C	COMP GB	FIELD	025C	610 / 2 12,126,800:	2235/ 2
74H11	GATE	D-1 3	P DIP 14: 77/78	52C	DSPY GBC	FIELD	040C 55XPWR	11406 / 0 14,827,800:	
74H11	GATE	D-1 3	P DIP 14: 78/79	52C	DSPY GBC	FIELD	040C 55XPWR	16082 / 0 20,906,600:	
74H11	GATE	NONE 3	N/R DIP 14: 77/79	37C	COMP GB	FIELD	025C	1 / 0 19,234:	
74H11	GATE	NONE 3	N/R DIP 14: 77/79	37C	COMP GB	FIELD	025C	18 / 0 357,840:	
74H20	GATE	D 2	H DIP 14: 77/79	30C	COMP GB	FIELD	025C	198 / 3 3,808,332:	2236/ 3
74H20	GATE	D 2	H DIP 14: 77/79	30C	COMP GB	FIELD	025C	396 / 0 7,872,480:	
74H20	GATE	D-1 2	P DIP 14: 78/79		COMM AIF	FIELD		50 / 0 15,444:	
74H20	GATE	D-1 2	P DIP 14: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	307 / 0 399,100:	
74H20	GATE	D-1 2	P DIP 14: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	431 / 0 560,300:	
74H20	GATE	NONE 2	N/R DIP 14: 77/79	30C	COMP GB	FIELD	025C	20 / 0 384,680:	
74H20	GATE	NONE 2	N/R DIP 14: 77/79	30C	COMP GB	FIELD	025C	40 / 0 795,200:	
74H21	GATE	D 2	H DIP 14: 77/79	35C	COMP GB	FIELD	025C	91 / 0 1,750,294:	
74H21	GATE	D 2	H DIP 14: 77/79	35C	COMP GB	FIELD	025C	182 / 0 3,618,161:	
74H21	GATE	D-1 2	P DIP 14: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	1056 / 0 1,372,800:	
74H21	GATE	D-1 2	P DIP 14: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	1240 / 0 1,612,000:	
74H21	GATE	NONE 2	N/R DIP 14: 77/79	35C	COMP GB	FIELD	025C	3 / 0 57,702:	
74H21	GATE	NONE 2	N/R DIP 14: 77/79	35C	COMP GB	FIELD	025C	6 / 0 119,280:	
74H22	GATE	D 2	H DIP 14: 77/79	30C	COMP GB	FIELD	025C	215 / 0 4,135,310:	
74H22	GATE	D 2	H DIP 14: 77/79	30C	COMP GB	FIELD	025C	430 / 0 8,548,400:	
74H22	GATE	NONE 2	N/R DIP 14: 77/79	30C	COMP GB	FIELD	025C	17 / 0 326,978:	
74H22	GATE	NONE 2	N/R DIP 14: 77/79	30C	COMP GB	FIELD	025C	34 / 0 675,920:	
74H30	GATE	D 1	H DIP 14: 77/79	27C	COMP GB	FIELD	025C	253 / 0 4,866,202:	

DIGITAL DEVICE DATA

VARIOUS TTL ,HIGH SPEED		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
: PART : NO.	: DEVICE : FUNCTION	: SCR.N. : CLASS	: PACKAGF/ : PINS	: JCT.* : TEMP.	: EQUIP. : TYPE	: DATA : CLASS.	: STRESS : LEVEL	: #TESTED/ : #FAILED	: MPEF REPORT NO. : /QTY FAILED	:
:	: CIRCUIT : FUNCTION	: NO. : GATES	: TEST : DATE	:	: APPL. : ENV.	: TEST : TYPE	:	: PART : HOURS	:	:
: 74H30	: GATE	: D	: H DIP 14:	: 27C	: COMP	: FIELD	: 025C	: 506 / 0	:	:
:	:	: 1	: 77/79	:	: GB	:	:	: 10,059,280:	:	:
: 74H30	: GATE	: D-1	: P DIP 14:	: 42C	: DSPY	: FIELD	: 040C 55XPWR:	: 890 / 0	:	:
:	:	: 1	: 77/78	:	: GBC	:	:	: 1,157,000:	:	:
: 74H30	: GATE	: D-1	: P DIP 14:	: 42C	: DSPY	: FIELD	: 040C 55XPWR:	: 692 / 0	:	:
:	:	: 1	: 78/79	:	: GBC	:	:	: 900,900:	:	:
: 74H30	: GATE	: NONE	: N/R DIP 14:	: 27C	: COMP	: FIELD	: 025C	: 23 / 0	:	:
:	:	: 1	: 77/79	:	: GB	:	:	: 442,382:	:	:
: 74H30	: GATE	: NONE	: N/R DIP 14:	: 27C	: COMP	: FIELD	: 025C	: 46 / 0	:	:
:	:	: 1	: 77/79	:	: GB	:	:	: 914,480:	:	:
: 74H40	: BUFFER	: D	: H DIP 14:	: 35C	: COMP	: FIELD	: 025C	: 196 / 0	:	:
:	:	: 2	: 77/79	:	: GB	:	:	: 3,769,864:	:	:
: 74H40	: BUFFER	: D	: H DIP 14:	: 35C	: COMP	: FIELD	: 025C	: 392 / 1	: 2237/ 1	:
:	:	: 2	: 77/79	:	: GB	:	:	: 7,792,960:	:	:
: 74H40	: BUFFER	: D-1	: P DIP 14:	: 50C	: DSPY	: FIELD	: 040C 55XPWR:	: 679 / 0	:	:
:	:	: 2	: 77/78	:	: GBC	:	:	: 882,700:	:	:
: 74H40	: BUFFER	: D-1	: P DIP 14:	: 50C	: DSPY	: FIELD	: 040C 55XPWR:	: 910 / 0	:	:
:	:	: 2	: 78/79	:	: GBC	:	:	: 1,183,000:	:	:
: 74H40	: BUFFER	: NONF	: N/R N/R 0:	: 35C	: COMP	: FIELD	: 025C	: 1 / 0	:	:
:	:	: 2	: 77/79	:	: GB	:	:	: 19,234:	:	:
: 74H40	: BUFFER	: NONE	: N/R N/R 0:	: 35C	: COMP	: FIELD	: 025C	: 2 / 0	:	:
:	:	: 2	: 77/79	:	: GB	:	:	: 39,760:	:	:
: 74H40	: BUFFER	: NONE	: N/R DIP 14:	: 35C	: COMP	: FIELD	: 025C	: 1 / 0	:	:
:	:	: 2	: 77/79	:	: GB	:	:	: 19,234:	:	:
: 74H40	: BUFFER	: NONE	: N/R DIP 14:	: 35C	: COMP	: FIELD	: 025C	: 2 / 0	:	:
:	:	: 2	: 77/79	:	: GB	:	:	: 39,760:	:	:
: 74H50	: GATE	: D	: H DIP 14:	: 31C	: COMP	: FIELD	: 025C	: 1 / 0	:	:
:	: EXPANDABLE	: 6	: 77/79	:	: GB	:	:	: 19,234:	:	:
: 74H50	: GATE	: D	: H DIP 14:	: 31C	: COMP	: FIELD	: 025C	: 2 / 0	:	:
:	: EXPANDABLE	: 6	: 77/79	:	: GB	:	:	: 39,760:	:	:
: 74H50	: GATE	: D-1	: P DIP 14:	: 46C	: DSPY	: FIELD	: 040C 55XPWR:	: 10227 / 1	:	:
:	: EXPANDABLE	: 6	: 77/78	:	: GBC	:	:	: 13,295,100:	:	:
: 74H50	: GATE	: D-1	: P DIP 14:	: 46C	: DSPY	: FIELD	: 040C 55XPWR:	: 10593 / 5	:	:
:	: EXPANDABLE	: 6	: 78/79	:	: GBC	:	:	: 13,770,900:	:	:
: 74H51	: GATE	: D	: H DIP 14:	: 31C	: COMP	: FIELD	: 025C	: 14 / 0	:	:
:	:	: 6	: 77/79	:	: GB	:	:	: 269,276:	:	:
: 74H51	: GATE	: D	: H DIP 14:	: 31C	: COMP	: FIELD	: 025C	: 28 / 2	: 2238/ 2	:
:	:	: 6	: 77/79	:	: GB	:	:	: 556,640:	:	:
: 74H51	: GATE	: D-1	: P DIP 14:	: 46C	: DSPY	: FIELD	: 040C 55XPWR:	: 306 / 0	:	:
:	:	: 6	: 77/78	:	: GBC	:	:	: 397,800:	:	:
: 74H51	: GATE	: D-1	: P DIP 14:	: 46C	: DSPY	: FIELD	: 040C 55XPWR:	: 620 / 0	:	:
:	:	: 6	: 78/79	:	: GBC	:	:	: 806,000:	:	:
: 74H52	: GATE	: D	: H DIP 14:	: 35C	: COMP	: FIELD	: 025C	: 133 / 0	:	:
:	: EXPANDABLE	: 5	: 77/79	:	: GB	:	:	: 2,558,122:	:	:
: 74H52	: GATE	: D	: H DIP 14:	: 35C	: COMP	: FIELD	: 025C	: 266 / 10	: 2239/ 2	:
:	: EXPANDABLE	: 5	: 77/79	:	: GB	:	:	: 5,288,080:	:	:

DIGITAL DEVICE DATA

VARIOUS TTL ,HIGH SPEED		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. :/QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
										2240/	8
74H52	GATE EXPANDABLE	D-1 5	P DIP 14: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR:	1395 / 0 1,813,500:			
74H52	GATE EXPANDABLE	D-1 5	P DIP 14: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR:	1757 / 0 2,284,100:			
74H53	GATE EXPANDABLE	D 5	H DIP 14: 77/79	30C	COMP GB	FIELD	025C	40 / 0 769,360:			
74H53	GATE EXPANDABLE	D 5	H DIP 14: 77/79	30C	COMP GB	FIELD	025C	80 / 0 1,590,400:			
74H53	GATE EXPANDABLE	D-1 5	P DIP 14: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR:	9629 / 6 12,517,700:			
74H53	GATE EXPANDABLE	D-1 5	P DIP 14: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR:	9456 / 10 12,292,800:			
74H54	GATE	D 5	H DIP 14: 77/79	30C	COMP GB	FIELD	025C	42 / 0 807,828:			
74H54	GATE	D 5	H DIP 14: 77/79	30C	COMP GB	FIELD	025C	96 / 0 1,908,480:			
74H54	GATE	D-1 5	P DIP 14: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR:	1632 / 0 2,121,600:			
74H54	GATE	D-1 5	P DIP 14: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR:	2506 / 0 3,257,800:			
74H55	GATE EXPANDABLE	D 3	H DIP 14: 77/79	28C	COMP GB	FIELD	025C	9 / 0 173,106:			
74H55	GATE EXPANDABLE	D 3	H DIP 14: 77/79	28C	COMP GB	FIELD	025C	18 / 0 357,840:			
74H55	GATE EXPANDABLE	D-1 3	P DIP 14: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR:	10378 / 1 13,491,400:			
74H55	GATE EXPANDABLE	D-1 3	P DIP 14: 78/79	43C	DSPY GBC	FIELD	040C 55XPWR:	6595 / 1 8,573,500:			
74H60	EXPANDER	D 2	H DIP 14: 77/79	27C	COMP GB	FIELD	025C	18 / 0 346,212:			
74H60	EXPANDER	D 2	H DIP 14: 77/79	27C	COMP GB	FIELD	025C	36 / 0 715,680:			
74H60	EXPANDER	D-1 2	P DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	74 / 0 96,200:			
74H60	EXPANDER	D-1 2	P DIP 14: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	60 / 0 78,000:			
74H61	EXPANDER	D 3	H DIP 14: 77/79	29C	COMP GB	FIELD	025C	25 / 0 480,850:			
74H61	EXPANDER	D 3	H DIP 14: 77/79	29C	COMP GB	FIELD	025C	50 / 2 994,000:	2241/	2	
74H61	EXPANDER	D-1 3	P DIP 14: 77/78	44C	DSPY GBC	FIELD	040C 55XPWR:	2 / 0 2,600:			
74H73	FLIP-FLOP JK	D-1 16	P DIP 14: 77/78	56C	DSPY GBC	FIELD	040C 55XPWR:	176 / 0 228,800:			

DIGITAL DEVICE DATA

VARIOUS TTL ,HIGH SPEED		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MPFF REPORT NO. : : /QTY FAILED :	
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:	
: 74H73 :	: FLIP-FLOP JK :	: D-1 16 :	: P DIP 14: 78/79 :	: 56C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR:	: 81 / 0 :	: 105,300:	
: 74H74 :	: FLIP-FLOP D :	: D-1 12 :	: P DIP 14: 77/78 :	: 56C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR:	: 224 / 0 :	: 291,200:	
: 74H74 :	: FLIP-FLOP D :	: D-1 12 :	: P DIP 14: 78/79 :	: 56C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR:	: 317 / 0 :	: 412,100:	
: 74H76 :	: FLIP-FLOP JK :	: D 16 :	: H DIP 16: 77/79 :	: 41C :	: COMP GB :	: FIELD :	: 025C :	: 1 / 0 :	: 19,234:	
: 74H76 :	: FLIP-FLOP JK :	: D 16 :	: H DIP 16: 77/79 :	: 41C :	: COMP GB :	: FIELD :	: 025C :	: 2 / 0 :	: 39,760:	
: 74H76 :	: FLIP-FLOP JK :	: X 16 :	: P DIP 16: 76/78 :	: 41C :	: COMP GBC :	: FIELD :	: 025C :	: 10 / 1 :	: 153,068:	
: 74H78 :	: FLIP-FLOP JK :	: D 16 :	: H DIP 14: 77/79 :	: 41C :	: COMP GB :	: FIELD :	: 025C :	: 40 / 1 :	: 2242/ 1 :	
: 74H78 :	: FLIP-FLOP JK :	: D 16 :	: H DIP 14: 77/79 :	: 41C :	: COMP GB :	: FIELD :	: 025C :	: 80 / 3 :	: 2243/ 3 :	
:	:	:	:	:	:	:	:	:	:	

DIGITAL DEVICE DATA

ADVANCED MICRO DEVICES
TTL ,LOW POWER:MANUFACTURER
:OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MPEF REPORT NO. : /QTY FAILED :
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:
: 26L02 :	: FLIP-FLOP :	: B-2/N :	: H DIP 16 :	: 81C :	: RADR :	: REIDEM :	: -054C 071C :	: 418 / 0 :	: 20,064 :
:	: MONOSTABLE :	: 14 :	: 76/77 :	:	: AU :	: TCVPC :	: 6CY 2. 27HZ :	:	:

FAIRCHILD SEMI
TTL ,LOW POWER:MANUFACTURER
:OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MPEF REPORT NO. : /QTY FAILED :
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:
: 9L24 :	: FLIP-FLOP :	: B-2/N :	: H DIP 16 :	: 75C :	: RADR :	: REIDEM :	: -054C 071C :	: 209 / 0 :	: 10,032 :
:	: JK :	: 16 :	: 76/77 :	:	: AU :	: TCVPC :	: 6CY 2. 27HZ :	:	:
: 9L24 :	: FLIP-FLOP :	: D :	: H DIP 16 :	: 44C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 686 / 2 :	: 891,800 :
:	: JK :	: 16 :	: 77/78 :	:	: GBC :	:	:	:	:
: 9L24 :	: FLIP-FLOP :	: D :	: H DIP 16 :	: 44C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 647 / 2 :	: 841,100 :
:	: JK :	: 16 :	: 78/79 :	:	: GBC :	:	:	:	:
: 93L00 :	: SHIFT REG :	: D-1 :	: P DIP 16 :	: 48C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 21022 / 1 :	: 27,328,600 :
:	:	: 40 :	: 77/78 :	:	: GBC :	:	:	:	:
: 93L00 :	: SHIFT REG :	: D-1 :	: P DIP 16 :	: 48C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 25258 / 3 :	: 32,835,400 :
:	:	: 40 :	: 78/79 :	:	: GBC :	:	:	:	:
: 93L01 :	: DECODER :	: B-1 :	: H DIP 16 :	: 30C :	: COMP :	: REIDEM :	: 025C :	: 21 / 0 :	: 7,382 :
:	: BCD/DECIMAL :	: 18 :	: 78/78 :	:	: GT :	:	:	:	:
: 93L01 :	: DECODER :	: D-1 :	: P DIP 16 :	: 45C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 6859 / 1 :	: 8,916,700 :
:	: BCD/DECIMAL :	: 18 :	: 77/78 :	:	: GBC :	:	:	:	:
: 93L01 :	: DECODER :	: D-1 :	: P DIP 16 :	: 45C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 7201 / 0 :	: 9,361,300 :
:	: BCD/DECIMAL :	: 18 :	: 78/79 :	:	: GBC :	:	:	:	:
: 93L10 :	: COUNTER :	: B-1 :	: H DIP 16 :	: 34C :	: COMP :	: REIDEM :	: 025C :	: 6 / 0 :	: 2,109 :
:	: BCD/DECIMAL :	: 38 :	: 78/78 :	:	: GT :	:	:	:	:
: 93L11 :	: BUFFER :	: D-1 :	: P DIP 24 :	: 45C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 5892 / 4 :	: 7,659,600 :
:	:	: 25 :	: 77/78 :	:	: GBC :	:	:	:	:
: 93L11 :	: BUFFER :	: D-1 :	: P DIP 24 :	: 45C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 7906 / 2 :	: 10,277,800 :
:	:	: 25 :	: 78/79 :	:	: GBC :	:	:	:	:
: 93L14 :	: LATCH :	: B-1 :	: H DIP 16 :	: 31C :	: COMP :	: REIDEM :	: 025C :	: 78 / 0 :	: 27,417 :
:	:	: 30 :	: 78/78 :	:	: GT :	:	:	:	:
: 93L14 :	: LATCH :	: D-1 :	: P DIP 16 :	: 45C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 35037 / 8 :	: 45,548,100 :
:	:	: 30 :	: 77/78 :	:	: GBC :	:	:	:	:
: 93L14 :	: LATCH :	: D-1 :	: P DIP 16 :	: 45C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 35722 / 5 :	: 46,438,600 :
:	:	: 30 :	: 78/79 :	:	: GBC :	:	:	:	:
: 93L16 :	: COUNTER :	: B-2/N :	: H DIP 16 :	: 80C :	: RADR :	: REIDEM :	: -054C 071C :	: 1672 / 0 :	: 80,256 :
:	: BINARY :	: 38 :	: 76/77 :	:	: AU :	: TCVPC :	: 6CY 2. 27HZ :	:	:
: 93L16 :	: COUNTER :	: B-1 :	: H DIP 16 :	: 34C :	: COMP :	: REIDEM :	: 025C :	: 54 / 0 :	: 18,981 :
:	: BINARY :	: 38 :	: 78/78 :	:	: GT :	:	:	:	:
: 93L16 :	: COUNTER :	: D-1 :	: P DIP 16 :	: 48C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 3270 / 2 :	: 4,251,000 :
:	: BINARY :	: 38 :	: 77/78 :	:	: GBC :	:	:	:	:

DIGITAL DEVICE DATA

FAIRCHILD SEMI TTL ,LOW POWER		:MANUFACTURER :OPERATIONAL TYPE			RELIABILITY ANALYSIS CENTER						
: PART : NO.	: DEVICE : FUNCTION	: SCR.N. : CLASS	: PACKAGE/ : PINS	: JCT.* : TEMP.	: EQUIP. : TYPE	: DATA : CLASS.	: STRESS : LEVEL	: #TESTED/ : #FAILED	: MFEF REPORT NO. : /QTY FAILED		
:	: CIRCUIT : FUNCTION	: NO. : GATES	: TEST : DATE	:	: APPL. : ENV.	: TEST : TYPE	:	: PART : HOURS	:		
: 93L16	: COUNTER	: D-1	: P DIP 16	: 48C	: DSPY	: FIELD	: 040C 55XPWR	: 3985 / 0	:		
:	: BINARY	: 38	: 78/79	:	: GBC	:	:	: 5,180,500:	:		
: 93L21	: DECODFR	: D-1	: P DIP 16	: 45C	: DSPY	: FIELD	: 040C 55XPWR	: 1960 / 1	:		
:	:	: 18	: 77/78	:	: GBC	:	:	: 2,548,000:	:		
: 93L21	: DECODER	: D-1	: P DIP 16	: 45C	: DSPY	: FIELD	: 040C 55XPWR	: 2204 / 0	:		
:	:	: 18	: 78/79	:	: GBC	:	:	: 2,865,200:	:		
: 93L24	: COMPARATOR	: B-1	: H DIP 16	: 31C	: COMP	: REDEM	: 025C	: 9 / 0	:		
:	:	: 27	: 78/78	:	: GT	:	:	: 3,164:	:		
: 93L24	: COMPARATOR	: D	: H FPK 16	: 92C	: NR	: LIFE	: 085C	: 46 / 0	:		
:	:	: 27	: 77/77	:	: N/R	: OP DYN	:	: 46,000:	:		
:	:	:	:	:	:	: LIFE	:	: 46 / 1	:		
:	:	:	:	:	:	: EM	:	:	:		
: 93L24	: COMPARATOR	: D-1	: P DIP 16	: 45C	: DSPY	: FIELD	: 040C 55XPWR	: 32402 / 17	:		
:	:	: 27	: 77/78	:	: GBC	:	:	: 42,122,500:	:		
: 93L24	: COMPARATOR	: D-1	: P DIP 16	: 45C	: DSPY	: FIELD	: 040C 55XPWR	: 31547 / 9	:		
:	:	: 27	: 78/79	:	: GBC	:	:	: 41,011,100:	:		
: 96L02	: FLIP-FLOP	: B-1	: H DIP 16	: 31C	: COMP	: REDEM	: 025C	: 48 / 0	:		
:	: MONOSTABLE	: 14	: 78/78	:	: GT	:	:	: 16,872:	:		

NATIONAL SEMI TTL ,LOW POWER		:MANUFACTURER :OPERATIONAL TYPE			RELIABILITY ANALYSIS CENTER						
: PART : NO.	: DEVICE : FUNCTION	: SCR.N. : CLASS	: PACKAGE/ : PINS	: JCT.* : TEMP.	: EQUIP. : TYPE	: DATA : CLASS.	: STRESS : LEVEL	: #TESTED/ : #FAILED	: MFEF REPORT NO. : /QTY FAILED		
:	: CIRCUIT : FUNCTION	: NO. : GATES	: TEST : DATE	:	: APPL. : ENV.	: TEST : TYPE	:	: PART : HOURS	:		
: 54L04	: INVERTER	: J-B	: H DIP 14	:	: RADR	: REDEM	:	: 10 / 0	:		
:	:	: 6	: 77/77	:	: AIU	: OPERATE	:	: 322:	:		
: 54L165A	: SHIFT REG	: B-2	: H DIP 16	: 97C	: NAVG	: REDEM	: -054C 072C	: 7 / 0	:		
:	:	: 62	: 77/77	:	: AI	: TCVP	: 43CY 2 60HZ	: 4,387:	:		
: 70L97	: RUFFER	: B-1	: H DIP 16	: 27C	: COMP	: REDEM	: 025C	: 36 / 0	:		
:	:	: 7	: 78/78	:	: GT	:	:	: 12,654:	:		
: 74L00	: GATE	: D-1	: P DIP 14	: 41C	: DSPY	: FIELD	: 040C 55XPWR	: 9217 / 0	:		
:	:	: 4	: 77/78	:	: GBC	:	:	: 11,982,100:	:		
: 74L00	: GATE	: D-1	: P DIP 14	: 41C	: DSPY	: FIELD	: 040C 55XPWR	: 14934 / 3	:		
:	:	: 4	: 78/79	:	: GBC	:	:	: 19,414,200:	:		
: 74L164	: SHIFT REG	: D-1	: P DIP 14	: 45C	: DSPY	: FIELD	: 040C 55XPWR	: 32 / 0	:		
:	:	: 36	: 77/78	:	: GBC	:	:	: 41,600:	:		
: 74L164	: SHIFT REG	: D-1	: P DIP 14	: 45C	: DSPY	: FIELD	: 040C 55XPWR	: 451 / 0	:		
:	:	: 36	: 78/79	:	: GBC	:	:	: 586,300:	:		
: 74L42A	: DECODER	: D-1	: P DIP 16	: 43C	: DSPY	: FIELD	: 040C 55XPWR	: 5352 / 1	:		
:	: BCD/DECIMAL	: 18	: 77/78	:	: GBC	:	:	: 6,957,600:	:		
: 74L42A	: DECODER	: D-1	: P DIP 16	: 43C	: DSPY	: FIELD	: 040C 55XPWR	: 4696 / 1	:		
:	: BCD/DECIMAL	: 18	: 78/79	:	: GBC	:	:	: 6,104,800:	:		

DIGITAL DEVICE DATA

NATIONAL SEMI
TTL, LOW POWERMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO.: /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
74L72	FLIP-FLOP JK	D-1 8	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR	2655 / 8	3,451,500
74L72	FLIP-FLOP JK	D-1 8	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR	3806 / 2	4,947,800
74L73	FLIP-FLOP JK	D-1 14	P DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	15056 / 7	19,572,800
74L73	FLIP-FLOP JK	D-1 14	P DIP 14: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	14653 / 8	19,048,900
74L74	FLIP-FLOP D	D-1 12	P DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	99999 / 58	143,265,200
						FIELD		10205 / 0	
74L74	FLIP-FLOP D	D-1 12	P DIP 14: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	99999 / 76	161,565,300
						FIELD		24282 / 0	
74L85	COMPARATOR	D-1 33	P DIP 16: 77/78	44C	DSPY GBC	FIELD	040C 55XPWR	2475 / 0	3,217,500
74L85	COMPARATOR	D-1 33	P DIP 16: 78/79	44C	DSPY GBC	FIELD	040C 55XPWR	2136 / 0	2,776,800
74L90	COUNTER DECADE	D-1 15	P DIP 14: 77/78	44C	DSPY GBC	FIELD	040C 55XPWR	9105 / 1	11,836,500
74L90	COUNTER DECADE	D-1 15	P DIP 14: 78/79	44C	DSPY GBC	FIELD	040C 55XPWR	9567 / 2	12,437,100
74L93	COUNTER BINARY	D-1 25	P DIP 14: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR	35 / 0	45,500
74L95	SHIFT REG	D-1 37	P DIP 14: 77/78	44C	DSPY GBC	FIELD	040C 55XPWR	2328 / 0	3,026,400
74L95	SHIFT REG	D-1 37	P DIP 14: 78/79	44C	DSPY GBC	FIELD	040C 55XPWR	3808 / 1	4,950,400
75L51	FLIP-FLOP D	B-1 45	H DIP 16: 78/78	28C	COMP GT	RELDEN	025C	6 / 0	2,109
76L70	SHIFT REG	B-2 68	H DIP 14: 77/77	97C	NAVIG AI	RELDEN TCVPC	-054C 072C 43CY 2 60HZ	9 / 0	5,640
81L23	MULTIPLEXER	D-1 19	P DIP 16: 77/78	44C	DSPY GBC	FIELD	040C 55XPWR	3817 / 2	4,962,100
81L23	MULTIPLEXER	D-1 19	P DIP 16: 78/79	44C	DSPY GBC	FIELD	040C 55XPWR	9920 / 2	12,896,000
85L51	REGISTER D	D-1 45	P DIP 16: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	14054 / 14	18,270,200
85L51	REGISTER D	D-1 45	P DIP 16: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	16816 / 9	21,860,800
85L54	COUNTER BINARY	D-1 65	P DIP 16: 77/78	46C	DSPY GBC	FIELD	040C 55XPWR	2445 / 5	3,178,500
85L54	COUNTER BINARY	D-1 65	P DIP 16: 78/79	46C	DSPY GBC	FIELD	040C 55XPWR	2277 / 1	2,960,100

DIGITAL DEVICE DATA

NATIONAL SEMI TTL ,LOW POWER		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
: PART : NO.	: DEVICE : FUNCTION	: SCR.N. : CLASS	: PACKAGE/ : PINS	: JCT.* : TEMP.	: EQUIP. : TYPE	: DATA : CLASS.	: STRESS : LEVEL	: #TESTED/ : #FAILED	: MFEF REPORT NO. : /QTY FAILED	
:	: CIRCUIT : FUNCTION	: NO. : GATES	: TEST : DATE	:	: APPL. : ENV.	: TEST : TYPE	:	: PART : HOURS	:	
:	:	:	:	:	:	:	:	:	:	
: 86L75	: COUNTER	: D-1	: P DIP 16:	: 45C	: DSPY	: FIELD	: 040C 55XPWR:	: 22813 / 15 :	:	
:	: DECADE	: 54	: 77/78	:	: GBC	:	:	: 29,656,900:	:	
:	:	:	:	:	:	:	:	:	:	
: 86L75	: COUNTER	: D-1	: P DIP 16:	: 45C	: DSPY	: FIELD	: 040C 55XPWR:	: 19838 / 6 :	:	
:	: DECADE	: 54	: 78/79	:	: GBC	:	:	: 25,789,400:	:	
:	:	:	:	:	:	:	:	:	:	
: 86L76	: COUNTER	: D-1	: P DIP 16:	: 45C	: DSPY	: FIELD	: 040C 55XPWR:	: 1274 / 4 :	:	
:	: BINARY	: 54	: 77/78	:	: GBC	:	:	: 1,656,200:	:	
:	:	:	:	:	:	:	:	:	:	
: 86L76	: COUNTER	: D-1	: P DIP 16:	: 45C	: DSPY	: FIELD	: 040C 55XPWR:	: 1348 / 2 :	:	
:	: BINARY	: 54	: 78/79	:	: GBC	:	:	: 1,752,400:	:	
:	:	:	:	:	:	:	:	:	:	

TEXAS INSTRUMENTS TTL ,LOW POWER		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
: PART : NO.	: DEVICE : FUNCTION	: SCR.N. : CLASS	: PACKAGE/ : PINS	: JCT.* : TEMP.	: EQUIP. : TYPE	: DATA : CLASS.	: STRESS : LEVEL	: #TESTED/ : #FAILED	: MFEF REPORT NO. : /QTY FAILED	
:	: CIRCUIT : FUNCTION	: NO. : GATES	: TEST : DATE	:	: APPL. : ENV.	: TEST : TYPE	:	: PART : HOURS	:	
: 54L157	: MULTIPLEXER	: B-1 : 15	: H DIP 16: : 78/78	: 35C	: COMP : GT	: RELDEN	: 025C	: 9 / 0 : 3,164	:	
: 54L73	: FLIP-FLOP : JK	: B-2/N : 14	: H DIP 16: : 76/77	: 72C	: RADR : AU	: RELDEN : TCVPC	: -054C 071C : 6CY 2. 27HZ	: 836 / 0 : 40,128	:	
: 54L96	: SHIFT REG	: D : 49	: H DIP 16: : 77/78	: 66C	: COMB : AIT	: FIELD	:	: 168 / 0 : 1,596,000	:	
: 74L121	: FLIP-FLOP : MONOSTABLE	: D-1 : 8	: P DIP 14: : 77/78	: 45C	: DSPY : GBC	: FIELD	: 040C 55XPWR	: 5102 / 0 : 6,632,600	:	
: 74L121	: FLIP-FLOP : MONOSTABLE	: D-1 : 8	: P DIP 14: : 78/79	: 45C	: DSPY : GBC	: FIELD	: 040C 55XPWR	: 3615 / 1 : 4,699,500	:	
: 74L122	: FLIP-FLOP : MONOSTABLE	: D-1 : 10	: P DIP 14: : 77/78	: 46C	: DSPY : GBC	: FIELD	: 040C 55XPWR	: 4113 / 1 : 5,346,900	:	
: 74L122	: FLIP-FLOP : MONOSTABLE	: D-1 : 10	: P DIP 14: : 78/79	: 46C	: DSPY : GBC	: FIELD	: 040C 55XPWR	: 4812 / 0 : 6,255,600	:	
: 74L123	: FLIP-FLOP : MONOSTABLE	: D-1 : 20	: P DIP 16: : 77/78	: 51C	: DSPY : GBC	: FIELD	: 040C 55XPWR	: 3541 / 0 : 4,603,300	:	
: 74L123	: FLIP-FLOP : MONOSTABLE	: D-1 : 20	: P DIP 16: : 78/79	: 51C	: DSPY : GBC	: FIELD	: 040C 55XPWR	: 2273 / 1 : 2,954,900	:	
: 74L123	: FLIP-FLOP : MONOSTABLE	: D-1 : 20	: P DIP 16: : 77/77	: 41C	: COMM : GBC	: FIELD	: 030C	: 2250 / 5 : 10,174,500	:	
: 74L153	: MULTIPLEXER	: D-1 : 16	: P DIP 16: : 77/78	: 49C	: DSPY : GBC	: FIELD	: 040C 55XPWR	: 634 / 0 : 824,200	:	
: 74L153	: MULTIPLEXER	: D-1 : 16	: P DIP 16: : 78/79	: 49C	: DSPY : GBC	: FIELD	: 040C 55XPWR	: 614 / 0 : 798,200	:	
: 74L157	: MULTIPLEXER	: D-1 : 15	: P DIP 16: : 77/78	: 47C	: DSPY : GBC	: FIELD	: 040C 55XPWR	: 1813 / 0 : 2,356,900	:	

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS
TTL ,LOW POWERMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
74L157	MULTIPLEXER	D-1 15	P DIP 16: 78/79	47C	DSPY GBC	FIELD	040C 55XPWR	1946 / 0 : 2,529,800:	
74L164	SHIFT REG	D-1 36	P DIP 14: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	10693 / 7 : 13,900,900:	
74L164	SHIFT REG	D-1 36	P DIP 14: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	13245 / 5 : 17,218,500:	
74L42	DECODER BCD/DECIMAL	D-1 18	P DIP 16: 77/78	47C	DSPY GBC	FIELD	040C 55XPWR	2576 / 0 : 3,348,800:	
74L42	DECODER BCD/DECIMAL	D-1 18	P DIP 16: 78/79	47C	DSPY GBC	FIELD	040C 55XPWR	1836 / 1 : 2,386,800:	
74L47	INTERFACE DECODER/DRIVER	D-1 N/R	P DIP 16: 77/78	55C	DSPY GBC	FIELD	040C 55XPWR	9664 / 0 : 12,563,200:	
74L47	INTERFACE DECODER/DRIVER	D-1 N/R	P DIP 16: 78/79	55C	DSPY GBC	FIELD	040C 55XPWR	14256 / 2 : 18,532,800:	
74L73	FLIP-FLOP JK	D-1 14	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR	5730 / 0 : 7,449,000:	
74L73	FLIP-FLOP JK	D-1 14	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR	7200 / 0 : 9,360,000:	
74L75	LATCH BISTABLE	D-1 24	P DIP 16: 77/78	55C	DSPY GBC	FIELD	040C 55XPWR	47054 / 8 : 61,170,200:	
74L75	LATCH BISTABLE	D-1 24	P DIP 16: 78/79	55C	DSPY GBC	FIELD	040C 55XPWR	58455 / 20 : 75,991,500:	
74L85	COMPARATOR	D-1 33	P DIP 16: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	1728 / 0 : 2,246,400:	
74L85	COMPARATOR	D-1 33	P DIP 16: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	1763 / 1 : 2,291,900:	
74L93	COUNTER BINARY	D-1 25	P DIP 14: 77/77	27C	INTR GBC	CHECK OPERATE	025C	2 / 0 : 880:	
74L95	SHIFT REG	D-1 37	P DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	2109 / 1 : 2,741,700:	
74L95	SHIFT REG	D-1 37	P DIP 14: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	3146 / 0 : 4,089,800:	
74L98	MULTIPLEXER	D-1 51	P DIP 16: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR	9258 / 3 : 12,035,400:	
74L98	MULTIPLEXER	D-1 51	P DIP 16: 78/79	43C	DSPY GBC	FIELD	040C 55XPWR	7065 / 0 : 9,184,500:	

DIGITAL DEVICE DATA

VARIOUS TTL ,LOW POWER		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
54L00	GATE	J-B 4	H FPK 14 77/77	82C	NAVG AI	RELDEM TCVPC	-054C 072C 43CY 2 60HZ	1 / 0 627:		
54L00	GATE	J-B 4	H DIP 14 77/77	82C	NAVG AI	RELDEM TCVPC	-054C 072C 43CY 2 60HZ	15 / 0 9,401:		
54L00	GATE	J-B 4	H FPK 14 75/78	71C	RADR AUF	FIELD		396 / 0 451,440:		
54L00	GATE	B-2 4	H FPK 14 75/78	26C	COMM GT	FIELD	025C	234 / 0 543,894:		
54L00	GATE	D 4	H DIP 14 77/78	56C	COMB AIT	FIELD		1140 / 1 10,830,000:		
54L01	GATE	J-B 4	H FPK 14 77/77	82C	NAVG AI	RELDEM TCVPC	-054C 072C 43CY 2 60HZ	1 / 0 627:		
54L02	GATE	J-B 4	H DIP 14 77/77	82C	NAVG AI	RELDEM TCVPC	-054C 072C 43CY 2 60HZ	7 / 0 4,387:		
54L02	GATE	D 4	H DIP 14 77/78	56C	COMB AIT	FIELD		456 / 0 4,332,000:		
54L04	INVERTER	J-B 6	H DIP 14 77/77	82C	NAVG AI	RELDEM TCVPC	-054C 072C 43CY 2 60HZ	13 / 0 8,147:		
54L04	INVERTER	J-B 6	H DIP 14 78/78	35C	COMP GT	RELDEM	025C	30 / 0 10,545:		
54L04	INVERTER	D 6	H DIP 14 77/78	56C	COMB AIT	FIELD		1148 / 0 10,906,000:		
54L10	GATE	J-B 3	H FPK 14 77/77	82C	NAVG AI	RELDEM TCVPC	-054C 072C 43CY 2 60HZ	1 / 0 627:		
54L10	GATE	J-B 3	H DIP 14 77/77	82C	NAVG AI	RELDEM TCVPC	-054C 072C 43CY 2 60HZ	8 / 0 5,014:		
54L10	GATE	J-B 3	H FPK 14 75/78	71C	RADR AUF	FIELD		297 / 0 338,580:		
54L10	GATE	B-2 3	H FPK 14 75/78	35C	COMM GT	FIELD	025C	90 / 0 209,190:		
54L10	GATE	D 3	H DIP 14 77/78	56C	COMB AIT	FIELD		668 / 1 6,346,000:		
54L193	COUNTER BINARY	B-2 48	H DIP 16 77/77	97C	NAVG AI	RELDEM TCVPC	-054C 072C 43CY 2 60HZ	24 / 0 15,041:		
54L20	GATE	J-B 2	H DIP 14 77/77	82C	NAVG AI	RELDEM TCVPC	-054C 072C 43CY 2 60HZ	2 / 0 1,253:		
54L20	GATE	J-B 2	H DIP 14 78/78	26C	COMP GT	RELDEM	025C	3 / 0 1,055:		
54L20	GATE	J-B 2	H FPK 14 75/78	71C	RADR AUF	FIELD		231 / 0 263,340:		
54L20	GATE	B-2 2	H FPK 14 75/78	26C	COMM GT	FIELD	025C	72 / 0 167,352:		
54L20	GATE	D 2	H DIP 14 77/78	56C	COMB AIT	FIELD		316 / 1 3,002,000:		
54L30	GATE	J-B 1	H FPK 14 75/78	71C	RADR AUF	FIELD		297 / 0 338,580:		

DIGITAL DEVICE DATA

VARIOUS TTL ,LOW POWER		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO.: :/QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPF		PART HOURS		
54L30	GATE	B-2 1	H FPK 14: 75/78	26C	COMM GT	FIELD	025C	18 / 0 41,838:		
54L30	GATE	D 1	H DIP 14: 77/78	56C	COMB AIT	FIELD		64 / 0 608,000:		
54L42	DECODER BCD/DECIMAL	J-B 18	H DIP 16: 77/77	82C	NAVG AI	RELDEN TCVPC	-054C 072C 43CY 2 60HZ	2 / 0 1,253:		
54L51	GATE	J-B 6	H DIP 14: 77/77	82C	NAVG AI	RELDEN TCVPC	-054C 072C 43CY 2 60HZ	4 / 0 2,507:		
54L54	GATE	J-B 5	H DIP 14: 77/77	82C	NAVG AI	RELDEN TCVPC	-054C 072C 43CY 2 60HZ	4 / 0 2,507:		
54L54	GATE	B-2 5	H FPK 14: 75/78	26C	COMM GT	FIELD	025C	9 / 0 20,919:		
54L72	FLIP-FLOP JK	B-2 8	H FPK 14: 75/78	26C	COMM GT	FIELD	025C	18 / 0 41,838:		
54L73	FLIP-FLOP JK	B-1 14	H DIP 14: 75/78	56C	NAVG AIF	FIELD		66 / 0 75,240:		
54L73	FLIP-FLOP JK	B-2 14	H FPK 14: 75/78	26C	COMM GT	FIELD	025C	36 / 0 83,676:		
54L73	FLIP-FLOP JK	D 14	H DIP 14: 77/78	56C	COMB AIT	FIELD		392 / 0 3,724,000:		
54L74	FLIP-FLOP D	J-B 12	H DIP 14: 77/77	82C	NAVG AI	RELDEN TCVPC	-054C 072C 43CY 2 60HZ	11 / 0 6,894:		
54L74	FLIP-FLOP D	J-B 12	H DIP 14: 78/78	26C	COMP GT	RELDEN	025C	3 / 0 1,055:		
54L74	FLIP-FLOP D	D 12	H DIP 14: 77/78	56C	COMB AIT	FIELD		1388 / 1 13,186,000:		
54L86	GATE	J-B 4	H DIP 14: 77/77	82C	NAVG AI	RELDEN TCVPC	-054C 072C 43CY 2 60HZ	3 / 0 1,880:		
54L86	GATE	B-1 4	H FPK 14: 75/78	72C	RADR AUF	FIELD		66 / 0 75,240:		
54L86	GATE	D 4	H DIP 14: 77/78	57C	COMB AIT	FIELD		24 / 0 228,000:		
54L90	COUNTER DECADE	D 15	H DIP 14: 77/78	57C	COMB AIT	FIELD		88 / 0 836,000:		
54L91	SHIFT REG	B-2 67	H FPK 14: 75/78	27C	COMM GT	FIELD	025C	27 / 0 62,757:		
54L93	COUNTER BINARY	J-B 25	H FPK 14: 77/77	82C	NAVG AI	RELDEN TCVPC	-054C 072C 43CY 2 60HZ	1 / 0 627:		
54L95	SHIFT REG	B-2 37	H FPK 14: 75/78	27C	COMM GT	FIELD	025C	180 / 0 418,380:		
54L95	SHIFT REG	D 37	H DIP 14: 77/78	57C	COMB AIT	FIELD		544 / 0 5,168,000:		
54L98	REGISTER	B-1 51	H DIP 16: 75/78	73C	RADR AUF	FIELD		198 / 0 225,720:		
74L00	GATE	D-1 4	P DIP 14: 77/77	31C	COMM GBC	FIELD	030C	11250 / 34 50,872,500:		

DIGITAL DEVICE DATA

VARIOUS
TTL ,LOW POWER:MANUFACTURER
:OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MTEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYFF		PART HOURS	
74L00	GATE	D-1 4	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	99999 / 43 153,600,200:	
						FIELD		18155 / 0	
74L00	GATE	D-1 4	P DIP 14: 78/79	41C	DSPY GBC	FIELD	031C 55XPWR:	99999 / 53 182,708,500:	
						FIELD		40546 / 0	
74L02	GATE	D-1 4	P DIP 14: 77/77	31C	COMM GBC	FIELD	030C	9000 / 36 40,698,000:	
74L02	GATE	D-1 4	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	39074 / 7 50,796,200:	
74L02	GATE	D-1 4	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	41955 / 10 54,541,500:	
74L03	GATE	D-1 4	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	38327 / 15 49,825,100:	
74L03	GATE	D-1 4	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	45741 / 26 59,463,300:	
74L04	INVERTER	D-1 6	P DIP 14: 77/77	40C	COMM GBC	FIELD	030C	2250 / 6 10,174,500:	
74L04	INVERTER	D-1 6	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	68715 / 20 89,329,500:	
74L04	INVERTER	D-1 6	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	78159 / 33 101,606,700:	
74L10	GATE	D-1 3	P DIP 14: 77/77	40C	COMM GBC	FIELD	030C	6750 / 49 30,523,500:	
74L10	GATE	D-1 3	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	36922 / 9 47,998,600:	
74L10	GATE	D-1 3	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	43561 / 14 56,629,300:	
74L121	FLIP-FLOP MONOSTABLE	D-1 8	P DIP 14: 77/77	40C	COMM GBC	FIELD	030C	2250 / 5 10,174,500:	
74L192	COUNTER VOLTAGE	D-1 50	P DIP 16: 77/78	65C	DSPY GBC	FIELD	040C 55XPWR:	6742 / 6 8,764,600:	
74L192	COUNTER VOLTAGE	D-1 50	P DIP 16: 78/79	65C	DSPY GBC	FIELD	040C 55XPWR:	10017 / 1 13,022,100:	
74L193	COUNTER BINARY	D-1 48	P DIP 16: 77/77	55C	COMM GBC	FIELD	030C	4500 / 44 20,349,000:	
74L193	COUNTER BINARY	D-1 48	P DIP 16: 77/78	65C	DSPY GBC	FIELD	040C 55XPWR:	7389 / 5 9,605,700:	
74L193	COUNTER BINARY	D-1 48	P DIP 16: 78/79	65C	DSPY GBC	FIELD	040C 55XPWR:	8738 / 10 11,359,400:	
74L20	GATE	D-1 2	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	12982 / 12 16,876,600:	
74L20	GATE	D-1 2	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	17547 / 3 22,811,100:	

DIGITAL DEVICE DATA

VARIOUS
TTL , LOW POWERMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO.: /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
74L30	GATE	D-1 1	P DIP 14: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	3960 / 0 5,148,000	
74L30	GATE	D-1 1	P DIP 14: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	4216 / 0 5,480,800	
74L51	GATE	D-1 6	P DIP 14: 77/77	40C	COMM GBC	FIELD	030C	2250 / 8 10,174,500	
74L51	GATE	D-1 6	P DIP 14: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	14684 / 5 19,089,200	
74L51	GATE	D-1 6	P DIP 14: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	16795 / 3 21,833,500	
74L54	GATE	D-1 5	P DIP 14: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	6897 / 2 8,966,100	
74L54	GATE	D-1 5	P DIP 14: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	6718 / 0 8,733,400	
74L74	FLIP-FLOP D	D-1 12	P DIP 14: 77/77	40C	COMM GBC	FIELD	030C	6750 / 38 30,523,500	
74L85	COMPARATOR	NONE 33	N/R DIP 16: 77/79	27C	COMP GB	FIELD	025C	17 / 0 326,978	
74L85	COMPARATOR	NONE 33	N/R DIP 16: 77/79	27C	COMP GB	FIELD	025C	30 / 0 596,400	
74L86	GATE	D-1 4	P DIP 14: 77/77	32C	COMM GBC	FIELD	030C	2250 / 10 10,174,500	
74L86	GATE	D-1 4	P DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	33991 / 13 44,188,300	
74L86	GATE	D-1 4	P DIP 14: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	36784 / 17 47,819,200	
74L93	COUNTER BINARY	D-1 25	P DIP 14: 77/77	40C	COMM GBC	FIELD	030C	2250 / 6 10,174,500	
74L93	COUNTER BINARY	D-1 25	P DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	3539 / 0 4,600,700	
74L93	COUNTER BINARY	D-1 25	P DIP 14: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	3389 / 2 4,405,700	
93L08	LATCH	D-1 60	P DIP 24: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	4775 / 5 6,207,500	
93L08	LATCH	D-1 60	P DIP 24: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	6000 / 3 7,800,000	
93L09	MULTIPLEXER	D-1 16	P DIP 16: 77/78	44C	DSPY GBC	FIELD	040C 55XPWR	26854 / 2 34,910,200	
93L09	MULTIPLEXER	D-1 16	P DIP 16: 78/79	44C	DSPY GBC	FIELD	040C 55XPWR	19506 / 3 25,357,800	
93L10	COUNTER DECADE	D-1 38	P DIP 16: 77/78	48C	DSPY GBC	FIELD	040C 55XPWR	14784 / 6 19,219,200	
93L10	COUNTER DECADE	D-1 38	P DIP 16: 78/79	48C	DSPY GBC	FIELD	040C 55XPWR	14166 / 3 18,415,800	
93L11	DECODER/DEMULTIPLX	D 25	R DIP 24: 77/78	60C	COMB AIT	FIELD		240 / 1 3,040,000	

DIGITAL DEVICE DATA

 VARIANTS
 TTL ,LOW POWER

 :MANUFACTURER
 :OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

: PART NO. :	: DEVICE FUNCTION :	: SCR. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MPEP REPORT NO. /QTY FAILED :
: : :	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	: : :	: APPL. ENV. :	: TEST TYPE :	: : :	: PART HOURS :	: : :
: 93L12 :	: MULTIPLEXER :	: D-1 :	: P DIP 16: 77/78 :	: 45C :	: DSPY :	: FIELD :	: 040C 55XPWR:	: 31817 / 23 :	: : :
: : :	: : :	: 17 :	: : :	: : :	: GBC :	: : :	: : :	: 41,362,100:	: : :
: 93L12 :	: MULTIPLEXER :	: D-1 :	: P DIP 16: 78/79 :	: 45C :	: DSPY :	: FIELD :	: 040C 55XPWR:	: 37942 / 14 :	: : :
: : :	: : :	: 17 :	: : :	: : :	: GBC :	: : :	: : :	: 49,324,600:	: : :
: 93L18 :	: ENCODER :	: D-1 :	: P DIP 16: 77/78 :	: 48C :	: DSPY :	: FIELD :	: 040C 55XPWR:	: 5714 / 1 :	: : :
: : :	: : :	: 24 :	: : :	: : :	: GBC :	: : :	: : :	: 7,428,200:	: : :
: 93L18 :	: ENCODER :	: D-1 :	: P DIP 16: 78/79 :	: 48C :	: DSPY :	: FIELD :	: 040C 55XPWR:	: 9074 / 3 :	: : :
: : :	: : :	: 24 :	: : :	: : :	: GBC :	: : :	: : :	: 11,796,200:	: : :
: 93L22 :	: MULTIPLEXER :	: B-1 :	: H FPK 16: 75/78 :	: 75C :	: RADR :	: FIELD :	: : :	: 528 / 0 :	: : :
: : :	: : :	: 19 :	: : :	: : :	: AUF :	: : :	: : :	: 601,920:	: : :
: L22 :	: MULTIPLEXER :	: D-1 :	: P DIP 16: 77/78 :	: 45C :	: DSPY :	: FIELD :	: 040C 55XPWR:	: 23633 / 7 :	: : :
: : :	: : :	: 19 :	: : :	: : :	: GBC :	: : :	: : :	: 30,722,900:	: : :
: 93L22 :	: MULTIPLEXFR :	: D-1 :	: P DIP 16: 78/79 :	: 45C :	: DSPY :	: FIELD :	: 040C 55XPWR:	: 29646 / 15 :	: : :
: : :	: : :	: 19 :	: : :	: : :	: GBC :	: : :	: : :	: 38,539,800:	: : :
: 93L24 :	: COMPARATOR :	: B-1 :	: H FPK 16: 75/78 :	: 75C :	: RADR :	: FIELD :	: : :	: 132 / 0 :	: : :
: : :	: : :	: 27 :	: : :	: : :	: AUF :	: : :	: : :	: 150,480:	: : :
: 93L34 :	: LATCH ADDRESSABLE :	: D-1 :	: P DIP 16: 77/78 :	: 47C :	: DSPY :	: FIELD :	: 040C 55XPWR:	: 524 / 1 :	: : :
: : :	: : :	: 59 :	: : :	: : :	: GBC :	: : :	: : :	: 681,200:	: : :
: 93L34 :	: LATCH ADDRESSABLE :	: D-1 :	: P DIP 16: 78/79 :	: 47C :	: DSPY :	: FIELD :	: 040C 55XPWR:	: 2612 / 1 :	: : :
: : :	: : :	: 59 :	: : :	: : :	: GBC :	: : :	: : :	: 3,395,600:	: : :
: 96L02 :	: FLIP-FLOP MONOSTABLE :	: D :	: H DIP 16: 77/78 :	: 60C :	: COMB :	: FIELD :	: : :	: 252 / 0 :	: : :
: : :	: : :	: 14 :	: : :	: : :	: AIT :	: : :	: : :	: 2,394,000:	: : :
: 96L02 :	: FLIP-FLOP MONOSTABLE :	: D-1 :	: P DIP 16: 77/78 :	: 52C :	: DSPY :	: FIELD :	: 040C 55XPWR:	: 17911 / 10 :	: : :
: : :	: : :	: 14 :	: : :	: : :	: GBC :	: : :	: : :	: 23,284,300:	: : :
: 96L02 :	: FLIP-FLOP MONOSTABLE :	: D-1 :	: P DIP 16: 78/79 :	: 52C :	: DSPY :	: FIELD :	: 040C 55XPWR:	: 17354 / 7 :	: : :
: : :	: : :	: 14 :	: : :	: : :	: GBC :	: : :	: : :	: 22,560,200:	: : :

DIGITAL DEVICE DATA

ADVANCED MICRO DEVICES
TTL ,LOW POWER/SCHOTTKY:MANUFACTURER
:OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MFEF REPORT NO. : /QTY FAILED :
: : :	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	: : :	: APPL. ENV. :	: TEST TYPE :	: : :	: PART HOURS :	: : :
: 25LS07 :	: REGISTER :	: X :	: P DIP 16 :	: 32C :	: COM :	: FIELD :	: 025C :	: 1000 / 0 :	: : :
: : :	: D :	: 38 :	: 77/78 :	: : :	: GBC :	: : :	: : :	: 4,320,000 :	: : :
: 25LS08 :	: REGISTER :	: D-1 :	: P DIP 16 :	: 45C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 46 / 0 :	: : :
: : :	: D :	: 26 :	: 77/78 :	: : :	: GBC :	: : :	: : :	: 59,800 :	: : :
: 25LS138 :	: DECODER/DEMULTIPLX :	: X :	: P DIP 16 :	: 28C :	: COMP :	: FIELD :	: 025C :	: 500 / 0 :	: : :
: : :	: : :	: 16 :	: 77/78 :	: : :	: GBC :	: : :	: : :	: 2,160,000 :	: : :
: 25LS139 :	: DECODER/DEMULTIPLX :	: X :	: P DIP 16 :	: 28C :	: COMP :	: FIELD :	: 025C :	: 500 / 0 :	: : :
: : :	: : :	: 18 :	: 77/78 :	: : :	: GBC :	: : :	: : :	: 2,160,000 :	: : :
: 25LS14 :	: MULTIPLIER :	: D :	: H DIP 16 :	: 50C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 4 / 0 :	: : :
: : :	: : :	: N/R :	: 77/78 :	: : :	: GBC :	: : :	: : :	: 5,200 :	: : :
: 25LS14 :	: MULTIPLIER :	: D :	: H DIP 16 :	: 50C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 825 / 0 :	: : :
: : :	: : :	: N/R :	: 78/79 :	: : :	: GBC :	: : :	: : :	: 1,072,500 :	: : :
: 25LS14 :	: MULTIPLIER :	: X :	: P DIP 16 :	: 35C :	: COMP :	: FIELD :	: 025C :	: 1000 / 0 :	: : :
: : :	: : :	: N/R :	: 77/78 :	: : :	: GBC :	: : :	: : :	: 4,320,000 :	: : :
: 25LS153 :	: MULTIPLEXER :	: X :	: P DIP 16 :	: 28C :	: COMP :	: FIELD :	: 025C :	: 500 / 0 :	: : :
: : :	: : :	: 16 :	: 77/78 :	: : :	: GBC :	: : :	: : :	: 2,160,000 :	: : :
: 25LS160 :	: COUNTER DECADE :	: D-1 :	: P DIP 16 :	: 48C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 174 / 0 :	: : :
: : :	: : :	: 60 :	: 77/78 :	: : :	: GBC :	: : :	: : :	: 226,200 :	: : :
: 25LS160 :	: COUNTER DECADE :	: D-1 :	: P DIP 16 :	: 48C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 3992 / 3 :	: : :
: : :	: : :	: 60 :	: 78/79 :	: : :	: GBC :	: : :	: : :	: 5,189,600 :	: : :
: 25LS163 :	: COUNTER BINARY :	: X :	: P DIP 16 :	: 34C :	: COMP :	: FIELD :	: 025C :	: 500 / 0 :	: : :
: : :	: : :	: 60 :	: 77/78 :	: : :	: GBC :	: : :	: : :	: 2,160,000 :	: : :
: 25LS194 :	: SHIFT REG :	: X :	: P DIP 16 :	: 32C :	: COMP :	: FIELD :	: 025C :	: 500 / 0 :	: : :
: : :	: : :	: 47 :	: 77/78 :	: : :	: GBC :	: : :	: : :	: 2,160,000 :	: : :
: 25LS374 :	: REGISTER :	: X :	: P DIP 20 :	: 37C :	: COMP :	: FIELD :	: 025C :	: 750 / 0 :	: : :
: : :	: : :	: 58 :	: 77/78 :	: : :	: GBC :	: : :	: : :	: 3,240,000 :	: : :
: 74LS148 :	: ENCODER :	: D-1 :	: P DIP 16 :	: 45C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 58 / 0 :	: : :
: : :	: : :	: 29 :	: 77/78 :	: : :	: GBC :	: : :	: : :	: 75,400 :	: : :
: 74LS148 :	: ENCODER :	: D-1 :	: P DIP 16 :	: 45C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 490 / 0 :	: : :
: : :	: : :	: 29 :	: 78/79 :	: : :	: GBC :	: : :	: : :	: 637,000 :	: : :
: 74LS374 :	: REGISTER :	: D-1 :	: P DIP 20 :	: 52C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 968 / 0 :	: : :
: : :	: : :	: 58 :	: 77/78 :	: : :	: GBC :	: : :	: : :	: 1,258,400 :	: : :
: 74LS374 :	: REGISTER :	: D-1 :	: P DIP 20 :	: 52C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 14429 / 0 :	: : :
: : :	: : :	: 58 :	: 78/79 :	: : :	: GBC :	: : :	: : :	: 18,757,700 :	: : :

FAIRCHILD SEMI
TTL ,LOW POWER/SCHOTTKY:MANUFACTURER
:OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MFEF REPORT NO. : /QTY FAILED :
: : :	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	: : :	: APPL. ENV. :	: TEST TYPE :	: : :	: PART HOURS :	: : :
: 74LS390 :	: COUNTER DECADE :	: D-1 :	: P DIP 16 :	: 50C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 583 / 0 :	: : :
: : :	: : :	: 70 :	: 77/78 :	: : :	: GBC :	: : :	: : :	: 757,900 :	: : :

DIGITAL DEVICE DATA

NATIONAL SEMI TTL, LOW POWER/SCHOTTKY		MANUFACTURER OPERATIONAL TYPE		RELIABILITY ANALYSIS CENTER						
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
74LS190	COUNTER	D-1	P DIP 16	50C	DSPY	FIELD	040C 55ZPWR:	17177 / 1		
	DECAPI	70	78/79		GBC			22,330,100		
74LS193	COUNTER	D-1	P DIP 14	50C	DSPY	FIELD	040C 55ZPWR:	436 / 1		
	BINARY	66	77/78		GBC			566,800		
74LS193	COUNTER	D-1	P DIP 14	50C	DSPY	FIELD	040C 55ZPWR:	8573 / 0		
	BINARY	66	78/79		GBC			11,144,900		

NATIONAL SEMI TTL, LOW POWER/SCHOTTKY		MANUFACTURER OPERATIONAL TYPE		RELIABILITY ANALYSIS CENTER						
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
74LS173	REGISTER	D-1	P DIP 16	48C	DSPY	FIELD	040C 55ZPWR:	3756 / 0		
	D	45	77/78		GBC			4,882,800		
74LS173	REGISTER	D-1	P DIP 16	48C	DSPY	FIELD	040C 55ZPWR:	10090 / 1		
	D	45	78/79		GBC			13,117,000		
81LS95	BUFFER	D-1	P DIP 20	46C	DSPY	FIELD	040C 55ZPWR:	173 / 0		
		9	77/78		GBC			224,900		
81LS95	BUFFER	D-1	P DIP 20	46C	DSPY	FIELD	040C 55ZPWR:	1706 / 0		
		9	78/79		GBC			2,217,800		
81LS96	BUFFER	D-1	P DIP 20	46C	DSPY	FIELD	040C 55ZPWR:	16 / 0		
		9	77/78		GBC			20,800		
81LS96	BUFFER	D-1	P DIP 20	46C	DSPY	FIELD	040C 55ZPWR:	3300 / 0		
		9	78/79		GBC			4,290,000		
81LS97	BUFFER	D-1	P DIP 20	46C	DSPY	FIELD	040C 55ZPWR:	1545 / 0		
		10	77/78		GBC			2,008,500		
81LS97	BUFFER	D-1	P DIP 20	46C	DSPY	FIELD	040C 55ZPWR:	26255 / 3		
		10	78/79		GBC			34,131,500		
81LS98	BUFFER	D-1	P DIP 20	46C	DSPY	FIELD	040C 55ZPWR:	129 / 0		
		10	77/78		GBC			167,700		
81LS98	BUFFER	D-1	P DIP 20	46C	DSPY	FIELD	040C 55ZPWR:	5695 / 0		
		10	78/79		GBC			7,403,500		

SIGNETICS TTL, LOW POWER/SCHOTTKY		MANUFACTURER OPERATIONAL TYPE		RELIABILITY ANALYSIS CENTER						
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
54LS04	INVERTER	X	H DIP 14	127C	NR	LIFE	125C	144 / 0		
		6	77/77		N/R	OP DYN		144,000		

DIGITAL DEVICE DATA

SIGNETICS
TTL ,LOW POWER/SCHOTTKYMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO.: :/QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
						LIFE		144 / 0	
						EM			
54LS05	INVERTER	X	H DIP 14: 77/77	127C	NR	LIFE	125C	134 / 0	
		6			N/R	OP DYN		134,000	
						LIFE		134 / 0	
						EM			
54LS10	GATE	X	H DIP 14: 77/77	126C	NR	LIFE	125C	134 / 0	
		3			N/R	OP DYN		134,000	
						LIFE		134 / 0	
						EM			
54LS12	GATE	X	H DIP 14: 77/77	126C	NR	LIFE	125C	134 / 0	
		3			N/R	OP DYN		134,000	
						LIFE		134 / 0	
						EM			
54LS20	GATE	X	H DIP 14: 77/77	126C	NR	LIFE	125C	76 / 0	
		2			N/R	OP DYN		76,000	
						LIFE		76 / 0	
						EM			
54LS22	GATE	X	H DIP 14: 77/77	126C	NR	LIFE	125C	75 / 0	
		2			N/R	OP DYN		75,000	
						LIFE		75 / 0	
						EM			
54LS30	GATE	X	H DIP 14: 77/77	126C	NR	LIFE	125C	134 / 0	
		1			N/R	OP DYN		134,000	
						LIFE		134 / 0	
						EM			
54LS51	GATE	X	H DIP 14: 77/77	126C	NR	LIFE	125C	134 / 0	
		6			N/R	OP DYN		134,000	
						LIFE		134 / 0	
						EM			
74LS00	GATE	D	H DIP 14: 77/77	126C	NR	LIFE	125C	56 / 0	
		4			N/R	OP DYN		56,000	
						LIFE		56 / 0	
						EM			
74LS00	GATE	D	H DIP 14: 77/77	151C	NR	LIFE	150C	56 / 0	
		4			N/R	STGLIFE		56,000	
						LIFE		56 / 0	
						EM			
74LS00	GATE	D-1	P DIP 14: 77/77	127C	NR	LIFE	125C	95 / 0	
		4			N/R	OP DYN		95,000	
						LIFE		95 / 0	
						EM			
74LS00	GATE	D-1	P DIP 14: 77/77	127C	NR	LIFE	125C	83 / 0	
		4			N/R	OP DYN		84,000	
						LIFE		83 / 1	2284/ 1
						EM			

DIGITAL DEVICE DATA

SIGNETICS		MANUFACTURER				RELIABILITY ANALYSIS CENTER				
TTL, LOW POWER/SCHOTTKY		OPERATIONAL TYPE								
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
74LS00	GATE	D-1 4	P DIP 14: 77/77	127C	NR N/R	LIFE OP DYN	125C	77 / 0 78,000		
						LIFE EM		77 / 0		
74LS00	GATE	D-1 4	P DIP 14: 77/77	152C	NR N/R	LIFE STGLIFE	150C	184 / 0 184,000		
						LIFE EM		184 / 0		
74LS04	INVERTER	D 6	H DIP 14: 77/77	152C	NR N/R	LIFE STGLIFE	150C	60 / 0 47,000		
						LIFE EM		60 / 1	2285/ 1	
74LS04	INVERTER	D-1 6	P DIP 14: 77/77	127C	NR N/R	LIFE OP DYN	125C	48 / 0 242,000		
						LIFE EM		48 / 0		
74LS04	INVERTER	D-1 6	P DIP 14: 77/77	152C	NR N/R	LIFE STGLIFE	150C	48 / 0 387,000		
						LIFE EM		48 / 1	2286/ 1	
74LS10	GATE	D-1 3	P DIP 14: 77/77	126C	NR N/R	LIFE OP DYN	125C	100 / 0 100,000		
						LIFE EM		100 / 0		
74LS161	COUNTER BINARY	D-1 57	P DIP 16: 77/77	139C	NR N/R	LIFE OP DYN	125C	81 / 0 82,000		
						LIFE EM		81 / 0		
74LS161	COUNTER BINARY	D-1 57	P DIP 16: 77/77	164C	NR N/R	LIFE STGLIFE	150C	46 / 0 46,000		
						LIFE EM		46 / 0		
74LS20	GATE	D 2	H DIP 14: 77/77	126C	NR N/R	LIFE OP DYN	125C	46 / 0 46,000		
						LIFE EM		46 / 1	2287/ 1	
74LS20	GATE	D 2	H DIP 14: 77/77	151C	NR N/R	LIFE STGLIFE	150C	46 / 0 46,000		
						LIFE EM		46 / 0		
74LS38	GATE	D-1 4	P DIP 14: 77/77	28C	INTR GBC	CHECK OPERATE	025C	2 / 0 880		
74LS40	BUFFER	D-1 2	P DIP 14: 77/77	127C	NR N/R	LIFE OP DYN	125C	46 / 0 46,000		
						LIFE EM		46 / 1	2288/ 1	

DIGITAL DEVICE DATA

SIGNETICS		MANUFACTURER		RELIABILITY ANALYSIS CENTER							
TTL ,LOW POWER/SCHOTTKY		OPERATIONAL TYPE									
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. : /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE			PART HOURS		
74LS40	BUFFER	D-1 2	P DIP 14 77/77	152C	NR	LIFE STGLIFE	150C	46 / 0	46,000		
						LIFE		46 / 0			
						EM					
74LS74	FLIP-FLOP D	D-1 12	P DIP 14 77/77	154C	NR	LIFE STGLIFE	150C	92 / 0	92,000		
						LIFE		92 / 0			
						EM					

TEXAS INSTRUMENTS		MANUFACTURER		RELIABILITY ANALYSIS CENTER							
TTL ,LOW POWER/SCHOTTKY		OPERATIONAL TYPE									
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. : /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE			PART HOURS		
54LS00	GATE	D 4	H DIP 14 77/78	41C	DSPY GBC	FIELD	040C 55%PWR	738 / 0	959,400		
54LS00	GATE	D 4	H DIP 14 78/79	41C	DSPY GBC	FIELD	040C 55%PWR	676 / 1	878,800		
54LS02	GATE	D 4	H DIP 14 77/78	41C	DSPY GBC	FIELD	040C 55%PWR	372 / 0	93,600		
54LS10	GATE	D 3	H DIP 14 78/79	41C	DSPY GBC	FIELD	040C 55%PWR	40 / 0	52,000		
54LS221	FLIP-FLOP MONOSTABLE	D 16	H DIP 16 77/78	46C	DSPY GBC	FIELD	040C 55%PWR	26 / 0	33,800		
54LS221	FLIP-FLOP MONOSTABLE	D 16	H DIP 16 78/79	46C	DSPY GBC	FIELD	040C 55%PWR	333 / 0	432,900		
54LS27	GATE	D 3	H DIP 14 77/78	42C	DSPY GBC	FIELD	040C 55%PWR	738 / 0	959,400		
54LS27	GATE	D 3	H DIP 14 78/79	42C	DSPY GBC	FIELD	040C 55%PWR	676 / 0	878,800		
54LS30	GATE	D 1	H DIP 14 78/79	41C	DSPY GBC	FIELD	040C 55%PWR	40 / 0	52,000		
54LS74	FLIP-FLOP D	D 12	H DIP 14 77/78	42C	DSPY GBC	FIELD	040C 55%PWR	26 / 0	33,800		
54LS74	FLIP-FLOP D	D 12	H DIP 14 78/79	42C	DSPY GBC	FIELD	040C 55%PWR	333 / 7	432,900		
74LS00	GATE	D-1 4	P DIP 14 77/78	41C	DSPY GBC	FIELD	040C 55%PWR	99999 / 42	250,589,300		
						FIELD		92762 / 0			
74LS00	GATE	D-1 4	P DIP 14 78/79	41C	DSPY GBC	FIELD	040C 55%PWR	99999 / 68	465,285,600		

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS
TTL, LOW POWER/SCHOTTKYMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	FOUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. :/QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
						FIELD		99999 / 0	
						FIELD		99999 / 0	
						FIELD		57915 / 0	
74LS00	GATE	D-1 4	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	191 / 0 248,300	
74LS03	GATE	D-1 4	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	76899 / 15 99,968,700	
74LS03	GATE	D-1 4	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	99999 / 29 158,203,500	
						FIELD		21696 / 0	
74LS04	INVERTER	D-1 6	P DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	99999 / 25 173,247,100	
						FIELD		33268 / 0	
74LS04	INVERTER	D-1 6	P DIP 14: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	99999 / 41 347,230,000	
						FIELD		99999 / 0	
						FIELD		67102 / 0	
74LS04	INVERTER	D-1 6	P DIP 14: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	702 / 0 912,600	
74LS05	INVERTER	D-1 6	P DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	32877 / 11 42,740,100	
74LS05	INVERTER	D-1 6	P DIP 14: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	50665 / 25 61,864,500	
74LS08	GATE	D-1 4	P DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	71686 / 5 93,191,800	
74LS08	GATE	D-1 4	P DIP 14: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	99999 / 14 175,786,000	
						FIELD		35221 / 0	
74LS09	GATE	D-1 4	P DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	2407 / 2 3,129,100	
74LS09	GATE	D-1 4	P DIP 14: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	5323 / 2 6,919,900	
74LS107	FLIP-FLOP JK	D-1 16	P DIP 14: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR:	65 / 0 84,500	
74LS107	FLIP-FLOP JK	D-1 16	P DIP 14: 78/79	43C	DSPY GBC	FIELD	040C 55XPWR:	1890 / 0 2,457,000	
74LS109	FLIP-FLOP JK	D-1 16	P DIP 16: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	9162 / 1 11,910,600	

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS
TTL, LOW POWER/SCHOTTKYMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFFF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
74LS109	FLIP-FLOP JK	D-1 16	P DIP 16: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	33431 / 6 43,460,300	
74LS12	GATE	D-1 3	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR	1005 / 0 1,306,500	
74LS12	GATE	D-1 3	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR	5651 / 0 7,346,300	
74LS122	FLIP-FLOP MONOSTABLE	D-1 10	P DIP 14: 77/78	44C	DSPY GBC	FIELD	040C 55XPWR	4716 / 3 6,130,800	
74LS122	FLIP-FLOP MONOSTABLE	D-1 10	P DIP 14: 78/79	44C	DSPY GBC	FIELD	040C 55XPWR	13730 / 9 17,849,000	
74LS123	FLIP-FLOP MONOSTABLE	D-1 20	P DIP 16: 77/78	46C	DSPY GBC	FIELD	040C 55XPWR	15234 / 12 19,804,200	
74LS123	FLIP-FLOP MONOSTABLE	D-1 20	P DIP 16: 78/79	46C	DSPY GBC	FIELD	040C 55XPWR	52253 / 11 67,928,900	
74LS124	VOLT CONTROL OSC	D-1 N/R	P DIP 16: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	3 / 0 3,900	
74LS125	BUFFER	D-1 4	P DIP 14: 77/78	46C	DSPY GBC	FIELD	040C 55XPWR	23065 / 8 30,764,500	
74LS125	BUFFER	D-1 4	P DIP 14: 78/79	46C	DSPY GBC	FIELD	040C 55XPWR	33860 / 6 44,018,000	
74LS126	BUFFER	D-1 4	P DIP 14: 78/79	47C	DSPY GBC	FIELD	040C 55XPWR	126 / 0 163,800	
74LS13	GATE SCHMITT TRIGGER	D-1 2	P DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	3396 / 0 4,414,800	
74LS13	GATE SCHMITT TRIGGER	D-1 2	P DIP 14: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	9128 / 0 11,866,400	
74LS132	GATE SCHMITT TRIGGER	D-1 4	P DIP 14: 77/78	44C	DSPY GBC	FIELD	040C 55XPWR	9944 / 7 12,927,200	
74LS132	GATE SCHMITT TRIGGER	D-1 4	P DIP 14: 78/79	44C	DSPY GBC	FIELD	040C 55XPWR	71400 / 18 92,820,000	
74LS14	INVERTER SCHMITT TRIGGER	D-1 6	P DIP 14: 77/78	46C	DSPY GBC	FIELD	040C 55XPWR	29177 / 2 37,930,100	
74LS14	INVERTER SCHMITT TRIGGER	D-1 6	P DIP 14: 78/79	46C	DSPY GBC	FIELD	040C 55XPWR	70802 / 19 92,042,600	
74LS145	INTERFACE DECODER/DRIVER	D-1 18	P DIP 16: 77/78	44C	DSPY GBC	FIELD	040C 55XPWR	473 / 0 614,900	
74LS145	INTERFACE DECODER/DRIVER	D-1 18	P DIP 16: 78/79	44C	DSPY GBC	FIELD	040C 55XPWR	2030 / 2 2,639,000	
74LS153	MULTIPLEXER	D-1 16	P DIP 16: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR	7997 / 0 10,396,100	
74LS153	MULTIPLEXER	D-1 16	P DIP 16: 78/79	43C	DSPY GBC	FIELD	040C 55XPWR	32807 / 3 42,649,100	
74LS155	DECODER/DEMUTIPLEX	D-1 15	P DIP 16: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR	8088 / 2 10,514,400	
74LS155	DECODER/DEMUTIPLEX	D-1 15	P DIP 16: 78/79	43C	DSPY GBC	FIELD	040C 55XPWR	12009 / 1 15,611,700	

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS
TTL LOW POWER/SCHOTTKYMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MTBF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
74LS156	DECODER/DEMULPLX	D-1 15	P DIP 16: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR:	46 / 0 59,800:	
74LS156	DECODER/DEMULPLX	D-1 15	P DIP 16: 78/79	43C	DSPY GBC	FIELD	040C 55XPWR:	1213 / 0 1,576,900:	
74LS158	MULTIPLEXER	D-1 15	P DIP 16: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR:	2185 / 0 2,840,500:	
74LS158	MULTIPLEXER	D-1 15	P DIP 16: 78/79	43C	DSPY GBC	FIELD	040C 55XPWR:	9989 / 0 12,985,700:	
74LS162	COUNTER DECADE	D-1 62	P DIP 16: 77/78	49C	DSPY GBC	FIELD	040C 55XPWR:	89 / 0 115,700:	
74LS162	COUNTER DECADE	D-1 62	P DIP 16: 78/79	49C	DSPY GBC	FIELD	040C 55XPWR:	1064 / 0 1,383,200:	
74LS163	COUNTER BINARY	D-1 54	P DIP 16: 77/78	49C	DSPY GBC	FIELD	040C 55XPWR:	14325 / 3 18,622,500:	
74LS163	COUNTER BINARY	D-1 54	P DIP 16: 78/79	49C	DSPY GBC	FIELD	040C 55XPWR:	37693 / 3 49,000,900:	
74LS164	SHIFT REG	D-1 36	P DIP 14: 77/78	49C	DSPY GBC	FIELD	040C 55XPWR:	10495 / 4 13,643,500:	
74LS164	SHIFT REG	D-1 36	P DIP 14: 78/79	49C	DSPY GBC	FIELD	040C 55XPWR:	82221 / 5 106,887,300:	
74LS165	SHIFT REG	D-1 62	P DIP 16: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR:	3 / 0 3,900:	
74LS165	SHIFT REG	D-1 62	P DIP 16: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR:	999 / 0 1,298,700:	
74LS169	COUNTER BINARY	D-1 60	P DIP 16: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR:	950 / 0 1,235,000:	
74LS169	COUNTER BINARY	D-1 60	P DIP 16: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR:	11764 / 4 15,293,200:	
74LS181	LOGIC UNIT ARITHMETIC	D-1 63	P DIP 24: 77/78	48C	DSPY GBC	FIELD	040C 55XPWR:	10291 / 2 13,378,300:	
74LS181	LOGIC UNIT ARITHMETIC	D-1 63	P DIP 24: 78/79	48C	DSPY GBC	FIELD	040C 55XPWR:	18986 / 10 24,681,800:	
74LS190	COUNTER BCD	D-1 62	P DIP 16: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR:	12161 / 5 15,809,300:	
74LS190	COUNTER BCD	D-1 62	P DIP 16: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR:	33301 / 0 43,291,300:	
74LS191	COUNTER BINARY	D-1 60	P DIP 16: 77/78	70C	DSPY GBC	FIELD	040C 55XPWR:	2440 / 0 3,172,000:	
74LS191	COUNTER BINARY	D-1 60	P DIP 16: 78/79	70C	DSPY GBC	FIELD	040C 55XPWR:	10782 / 0 14,016,600:	
74LS192	COUNTER BCD	D-1 50	P DIP 16: 77/78	49C	DSPY GBC	FIELD	040C 55XPWR:	12534 / 6 16,294,200:	
74LS192	COUNTER BCD	D-1 50	P DIP 16: 78/79	49C	DSPY GBC	FIELD	040C 55XPWR:	15064 / 4 19,583,200:	
74LS195A	SHIFT REG	D-1 41	P DIP 16: 77/78	47C	DSPY GBC	FIELD	040C 55XPWR:	8618 / 2 11,203,400:	

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS
TTL, LOW POWER/SCHOTTKYMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFFF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
74LS195A	SHIFT REG	D-1 41	P DIP 16: 78/79	47C	DSPY GBC	FIELD	040C 55XPWR:	24522 / 2 31,878,600:	
74LS196	COUNTER DECADE	D-1 39	P DIP 14: 77/78	49C	DSPY GBC	FIELD	040C 55XPWR:	15629 / 4 20,317,700:	
74LS196	COUNTER DECADE	D-1 39	P DIP 14: 78/79	49C	DSPY GBC	FIELD	040C 55XPWR:	30941 / 9 40,223,300:	
74LS197	COUNTER BINARY	D-1 34	P DIP 14: 77/78	49C	DSPY GBC	FIELD	040C 55XPWR:	777 / 0 1,010,100:	
74LS197	COUNTER BINARY	D-1 34	P DIP 14: 78/79	49C	DSPY GBC	FIELD	040C 55XPWR:	8837 / 0 11,488,100:	
74LS22	GATE	D-1 2	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	6 / 0 7,800:	
74LS22	GATE	D-1 2	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	619 / 0 804,700:	
74LS221	FLIP-FLOP MONOSTABLE	D-1 16	P DIP 16: 77/78	46C	DSPY GBC	FIELD	040C 55XPWR:	2548 / 1 3,313,700:	
74LS221	FLIP-FLOP MONOSTABLE	D-1 16	P DIP 16: 78/79	46C	DSPY GBC	FIELD	040C 55XPWR:	7839 / 5 10,190,700:	
74LS251	MULTIPLEXER	D-1 17	P DIP 16: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR:	1612 / 0 2,095,600:	
74LS251	MULTIPLEXER	D-1 17	P DIP 16: 78/79	43C	DSPY GBC	FIELD	040C 55XPWR:	12467 / 4 16,207,100:	
74LS253	MULTIPLEXER	D-1 16	P DIP 16: 77/78	44C	DSPY GBC	FIELD	040C 55XPWR:	3411 / 0 4,434,300:	
74LS253	MULTIPLEXER	D-1 16	P DIP 16: 78/79	44C	DSPY GBC	FIELD	040C 55XPWR:	43437 / 3 56,468,100:	
74LS257	MULTIPLEXER	D-1 15	P DIP 16: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR:	2822 / 1 3,668,600:	
74LS257	MULTIPLEXER	D-1 15	P DIP 16: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR:	10972 / 7 14,263,600:	
74LS258	MULTIPLEXER	D-1 15	P DIP 16: 77/78	44C	DSPY GBC	FIELD	040C 55XPWR:	8611 / 0 11,194,300:	
74LS258	MULTIPLEXER	D-1 15	P DIP 16: 78/79	44C	DSPY GBC	FIELD	040C 55XPWR:	18485 / 2 24,030,500:	
74LS259	LATCH ADDRESSABLE	D-1 N/R	P DIP 16: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR:	5020 / 2 6,526,000:	
74LS259	LATCH ADDRESSABLE	D-1 N/R	P DIP 16: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR:	12326 / 1 16,023,800:	
74LS26	INTERFACE TRANSLATOR	D-1 4	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	146 / 0 189,800:	
74LS26	INTERFACE TRANSLATOR	D-1 4	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	1667 / 0 2,167,100:	
74LS266	GATE	D-1 4	P DIP 14: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR:	1941 / 3 2,523,300:	
74LS266	GATE	D-1 4	P DIP 14: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR:	5258 / 1 6,835,400:	

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS
TTL, LOW POWER/SCHOTTKYMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MTBF REPORT NO./ QTY FAILED
	CIRCUIT FUNCTION	NO. CATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
74LS273	FLIP-FLOP D	D-1 50	P DIP 20: 77/78	48C	DSPY GBC	FIELD	040C 55XPWR:	4411 / 0 5,734,300:	
74LS273	FLIP-FLOP D	D-1 50	P DIP 20: 78/79	48C	DSPY GBC	FIELD	040C 55XPWR:	56011 / 10 72,814,300:	
74LS279	LATCH RS	D-1 8	P DIP 16: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	1727 / 0 2,245,100:	
74LS279	LATCH RS	D-1 8	P DIP 16: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	14271 / 3 18,552,300:	
74LS28	BUFFER	D-1 4	P DIP 14: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR:	2800 / 0 3,640,000:	
74LS28	BUFFER	D-1 4	P DIP 14: 78/79	43C	DSPY GBC	FIELD	040C 55XPWR:	5047 / 0 6,561,100:	
74LS283	ADDER FULL	D-1 42	P DIP 16: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR:	7152 / 0 9,297,600:	
74LS283	ADDER FULL	D-1 42	P DIP 16: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR:	28481 / 0 37,025,300:	
74LS290	COUNTER DECADE	D-1 19	P DIP 14: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR:	27574 / 12 35,846,200:	
74LS290	COUNTER DECADE	D-1 19	P DIP 14: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR:	34801 / 5 45,241,300:	
74LS293	COUNTER BINARY	D-1 25	P DIP 14: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR:	2145 / 1 2,788,500:	
74LS293	COUNTER BINARY	D-1 25	P DIP 14: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR:	10456 / 0 13,592,800:	
74LS295A	SHIFT REG	D-1 48	P DIP 14: 77/78	47C	DSPY GBC	FIELD	040C 55XPWR:	1239 / 0 1,610,700:	
74LS295A	SHIFT REG	D-1 48	P DIP 14: 78/79	47C	DSPY GBC	FIELD	040C 55XPWR:	1830 / 1 2,379,000:	
74LS298	MULTIPLEXER	D-1 51	P DIP 16: 77/78	46C	DSPY GBC	FIELD	040C 55XPWR:	5841 / 1 7,593,300:	
74LS298	MULTIPLEXER	D-1 51	P DIP 16: 78/79	46C	DSPY GBC	FIELD	040C 55XPWR:	16280 / 2 21,164,000:	
74LS30	GATE	D-1 1	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	13710 / 1 17,823,000:	
74LS30	GATE	D-1 1	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	37523 / 3 48,779,900:	
74LS33	BUFFER	D-1 4	P DIP 14: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR:	484 / 0 629,200:	
74LS33	BUFFER	D-1 4	P DIP 14: 78/79	43C	DSPY GBC	FIELD	040C 55XPWR:	3191 / 0 4,148,300:	
74LS366	INTERFACE BUS DRIVER	D-1 7	P DIP 16: 77/78	46C	DSPY GBC	FIELD	040C 55XPWR:	36 / 0 46,800:	
74LS366	INTERFACE BUS DRIVER	D-1 7	P DIP 16: 78/79	46C	DSPY GBC	FIELD	040C 55XPWR:	770 / 0 1,001,000:	
74LS37	BUFFER	D-1 4	P DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	916 / 0 1,190,800:	

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS
TTL, LOW POWER/SCHOTTKYMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	FOUIP. TYPE	DATA CLASS.	STRESS LEVFL	#TESTED/ #FAILED	MEFF REPORT NO. / QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
74LS37	BUFFER	D-1 4	P DIP 14 78/79	42C	DSPY GBC	FIELD	040C 55%PWR	2269 / 1 2,949,700	
74LS373	LATCH D	D-1 58	P DIP 20 78/79	50C	DSPY GBC	FIELD	040C 55%PWR	2675 / 0 3,477,500	
74LS375	LATCH BISTABLE	D-1 20	P DIP 16 77/78	43C	DSPY GBC	FIELD	040C 55%PWR	808 / 0 1,050,400	
74LS375	LATCH BISTABLE	D-1 20	P DIP 16 78/79	43C	DSPY GBC	FIELD	040C 55%PWR	10726 / 0 13,943,800	
74LS377	FLIP-FLOP D	D-1 51	P DIP 20 77/78	48C	DSPY GBC	FIELD	040C 55%PWR	53 / 0 68,900	
74LS377	FLIP-FLOP D	D-1 51	P DIP 20 78/79	48C	DSPY GBC	FIELD	040C 55%PWR	205 / 1 266,500	
74LS378	FLIP-FLOP D	D-1 38	P DIP 16 78/79	46C	DSPY GBC	FIELD	040C 55%PWR	475 / 0 617,500	
74LS379	FLIP-FLOP D	D-1 27	P DIP 16 78/79	45C	DSPY GBC	FIELD	040C 55%PWR	551 / 0 716,300	
74LS38	BUFFER	D-1 4	P DIP 14 77/78	42C	DSPY GBC	FIELD	040C 55%PWR	272 / 0 353,600	
74LS38	BUFFER	D-1 4	P DIP 14 78/79	42C	DSPY GBC	FIELD	040C 55%PWR	2124 / 4 2,761,200	
74LS395	SHIFT REG	D-1 48	P DIP 16 77/78	48C	DSPY GBC	FIELD	040C 55%PWR	37 / 0 48,100	
74LS395	SHIFT REG	D-1 48	P DIP 16 78/79	48C	DSPY GBC	FIELD	040C 55%PWR	657 / 0 854,100	
74LS42	DECODER BCD/DECIMAL	D-1 18	P DIP 16 77/78	44C	DSPY GBC	FIELD	040C 55%PWR	10369 / 3 13,479,700	
74LS42	DECODER BCD/DECIMAL	D-1 18	P DIP 16 78/79	44C	DSPY GBC	FIELD	040C 55%PWR	22858 / 0 29,715,400	
74LS47	INTERFACE DECODER/DRIVER	D-1 44	P DIP 16 77/78	44C	DSPY GBC	FIELD	040C 55%PWR	30 / 0 39,000	
74LS47	INTERFACE DECODER/DRIVER	D-1 44	P DIP 16 78/79	44C	DSPY GBC	FIELD	040C 55%PWR	4337 / 0 5,629,000	
74LS490	COUNTER DECADE	D-1 66	P DIP 16 78/79	61C	DSPY GBC	FIELD	040C 55%PWR	166 / 0 215,800	
74LS54	GATE	D-1 5	P DIP 14 77/78	41C	DSPY GBC	FIELD	040C 55%PWR	15269 / 2 19,849,700	
74LS54	GATE	D-1 5	P DIP 14 78/79	41C	DSPY GBC	FIELD	040C 55%PWR	17188 / 0 22,344,400	
74LS55	GATE	D-1 3	P DIP 14 77/78	41C	DSPY GBC	FIELD	040C 55%PWR	396 / 0 514,800	
74LS55	GATE	D-1 3	P DIP 14 78/79	41C	DSPY GBC	FIELD	040C 55%PWR	1227 / 0 1,595,100	
74LS73	FLIP-FLOP JK	D-1 16	P DIP 14 77/78	43C	DSPY GBC	FIELD	040C 55%PWR	8810 / 4 1,145,300	
74LS73	FLIP-FLOP JK	D-1 16	P DIP 14 78/79	43C	DSPY GBC	FIELD	040C 55%PWR	18774 / 0 24,406,200	

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS
TTL, LOW POWER/SCHOTTKY

MANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
74LS74	FLIP-FLOP D	D-1 12	P DIP 14: 77/77	28C	INTR GBC	CHECK OPERATE	025C	4 / 0	1,160
74LS74	FLIP-FLOP D	D-1 12	P DIP 14: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR:	191 / 0	248,300
74LS75	LATCH BISTABLE	D-1 24	P DIP 16: 77/78	43C	DSPY GBC	FIELD	040C 55XPWR:	30137 / 5	39,178,100
74LS75	LATCH BISTABLE	D-1 24	P DIP 16: 78/79	43C	DSPY GBC	FIELD	040C 55XPWR:	78325 / 4	101,822,500
74LS83	ADDER FULL	D-1 36	P DIP 16: 77/78	47C	DSPY GBC	FIELD	040C 55XPWR:	24066 / 2	31,285,800
74LS83	ADDER FULL	D-1 36	P DIP 16: 78/79	47C	DSPY GBC	FIELD	040C 55XPWR:	29988 / 0	38,984,400
74LS85	COMPARATOR	D-1 31	P DIP 16: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR:	884 / 0	1,149,200
74LS85	COMPARATOR	D-1 31	P DIP 16: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR:	2323 / 0	3,019,900
74LS86	GATE	D-1 4	P DIP 14: 77/78	44C	DSPY GBC	FIELD	040C 55XPWR:	17223 / 1	22,389,900
74LS86	GATE	D-1 4	P DIP 14: 78/79	44C	DSPY GBC	FIELD	040C 55XPWR:	32574 / 2	42,346,200
74LS90	COUNTER DECADE	D-1 15	P DIP 14: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR:	35027 / 5	45,535,100
74LS90	COUNTER DECADE	D-1 15	P DIP 14: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR:	64477 / 10	83,820,100
74LS92	COUNTER	D-1 26	P DIP 14: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR:	7899 / 2	10,268,700
74LS92	COUNTER	D-1 26	P DIP 14: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR:	14792 / 0	19,229,600
74LS93	COUNTER BINARY	D-1 25	P DIP 14: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR:	14110 / 8	18,343,000
74LS93	COUNTER BINARY	D-1 25	P DIP 14: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR:	22301 / 2	28,991,300
74LS95B	SHIFT REG	D-1 37	P DIP 14: 77/78	47C	DSPY GBC	FIELD	040C 55XPWR:	66 / 0	85,800
74LS95B	SHIFT REG	D-1 37	P DIP 14: 78/79	47C	DSPY GBC	FIELD	040C 55XPWR:	841 / 0	1,093,300
74LS96	SHIFT REG	D-1 39	P DIP 16: 77/78	46C	DSPY GBC	FIELD	040C 55XPWR:	7899 / 2	10,268,700
74LS96	SHIFT REG	D-1 39	P DIP 16: 78/79	46C	DSPY GBC	FIELD	040C 55XPWR:	4790 / 0	6,227,000

DIGITAL DEVICE DATA

VARIOUS TTL ,LOW POWER/SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO.: :/QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
54LS123	FLIP-FLOP MONOSTABLE	D 20	H DIP 16: 77/78	46C	DSPY GBC	FIELD	040C 55XPWR:	1476 / 0 1,918,800:		
54LS123	FLIP-FLOP MONOSTABLE	D 20	H DIP 16: 78/79	46C	DSPY GBC	FIELD	040C 55XPWR:	1352 / 1 1,757,600:		
54LS86	GATE	B-2 4	H DIP 14: 77/77	82C	NAVC AI	RELDEN TCVPC	-054C 072C 43CY 2 60HZ	4 / 0 2,507:		
54LS86	GATE	D 4	H DIP 14: 77/78	58C	COMB AIT	FIELD		80 / 0 760,000:		
74LS02	GATE	D-1 4	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	83727 / 14 108,845,100:		
74LS02	GATE	D-1 4	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	99999 / 24 209,441,700:		
						FIELD		61110 / 0		
74LS04	INVERTER	D-1 6	P DIP 14: 76/78	27C	COMP GBC	FIELD	025C	10 / 0 100,800:		
74LS04	INVERTER	D-1 6	P DIP 14: 78/78	27C	COMP GBC	FIELD	025C	10 / 0 28,800:		
74LS10	GATE	D-1 3	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	47207 / 6 61,369,100:		
74LS10	GATE	D-1 3	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	99999 / 8 138,135,400:		
						FIELD		6259 / 0		
74LS10	GATE	X 3	P DIP 14: 76/78	26C	COMP GBC	FIELD	025C	30 / 0 459,204:		
74LS10	GATE	X 3	P DIP 14: 76/78	26C	COMP GBC	FIELD	025C	20 / 0 198,336:		
74LS10	GATE	X 3	P DIP 14: 76/78	26C	COMP GBC	FIELD	025C	21 / 0 194,112:		
74LS10	GATE	X 3	P DIP 14: 78/78	26C	COMP GBC	FIELD	025C	30 / 0 86,400:		
74LS10	GATE	X 3	P DIP 14: 78/78	26C	COMP GBC	FIELD	025C	20 / 0 57,600:		
74LS10	GATE	X 3	P DIP 14: 78/78	26C	COMP GBC	FIELD	025C	21 / 0 60,480:		
74LS11	GATE	D-1 3	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR:	5394 / 1 7,012,200:		
74LS11	GATE	D-1 3	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR:	19121 / 4 24,857,300:		
74LS11	GATE	D-1 3	P DIP 14: 76/78	27C	COMP GBC	FIELD	025C	20 / 0 201,600:		
74LS11	GATE	D-1 3	P DIP 14: 78/78	27C	COMP GBC	FIELD	025C	20 / 0 57,600:		
74LS112	FLIP-FLOP JK	D-1 16	P DIP 16: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR:	19794 / 7 25,732,200:		

DIGITAL DEVICE DATA

VARIOUS TTL ,LOW POWER/SCHOTTKY		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER			
: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	:MFEF REPORT NO.: :/QTY FAILED :
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:
: 74LS112 :	: FLIP-FLOP : JK :	: D-1 : 16 :	: P DIP 16: : 74/79 :	: 42C :	: DSPY : GBC :	: FIELD :	: 040C 55XPWR:	: 44662 / 15 :	: 58,060,600:
: 74LS138 :	: DECODER/DEMULTIPLY:	: D-1 : 16 :	: P DIP 16: : 77/78 :	: 43C :	: DSPY : GBC :	: FIELD :	: 040C 55XPWR:	: 29902 / 7 :	: 38,872,600:
: 74LS138 :	: DECODER/DEMULTIPLY:	: D-1 : 16 :	: P DIP 16: : 78/79 :	: 43C :	: DSPY : GBC :	: FIELD :	: 040C 55XPWR:	: 92028 / 31 :	: 119,636,400:
: 74LS139 :	: DECODER/DEMULTIPLY:	: D-1 : 18 :	: P DIP 16: : 77/78 :	: 43C :	: DSPY : GBC :	: FIELD :	: 040C 55XPWR:	: 3136 / 0 :	: 4,076,800:
: 74LS139 :	: DECODER/DEMULTIPLY:	: D-1 : 18 :	: P DIP 16: : 78/79 :	: 43C :	: DSPY : GBC :	: FIELD :	: 040C 55XPWR:	: 10993 / 3 :	: 14,290,900:
: 74LS151 :	: MULTIPLEXER :	: D-1 : 17 :	: P DIP 16: : 77/78 :	: 43C :	: DSPY : GBC :	: FIELD :	: 040C 55XPWR:	: 15399 / 4 :	: 20,018,700:
: 74LS151 :	: MULTIPLEXER :	: D-1 : 17 :	: P DIP 16: : 78/79 :	: 43C :	: DSPY : GBC :	: FIELD :	: 040C 55XPWR:	: 33962 / 5 :	: 44,150,600:
: 74LS154 :	: DECODER/DEMULTIPLY:	: D-1 : 25 :	: P DIP 24: : 77/78 :	: 45C :	: DSPY : GBC :	: FIELD :	: 040C 55XPWR:	: 4 / 0 :	: 5,200:
: 74LS154 :	: DECODER/DEMULTIPLY:	: D-1 : 25 :	: P DIP 24: : 78/79 :	: 45C :	: DSPY : GBC :	: FIELD :	: 040C 55XPWR:	: 424 / 0 :	: 551,200:
: 74LS157 :	: MULTIPLEXER :	: D-1 : 15 :	: P DIP 16: : 77/78 :	: 45C :	: DSPY : GBC :	: FIELD :	: 040C 55XPWR:	: 34146 / 1 :	: 44,389,800:
: 74LS157 :	: MULTIPLEXER :	: D-1 : 15 :	: P DIP 16: : 78/79 :	: 45C :	: DSPY : GBC :	: FIELD :	: 040C 55XPWR:	: 63346 / 6 :	: 82,349,800:
: 74LS160 :	: COUNTER : DECADE :	: D-1 : 60 :	: P DIP 16: : 77/78 :	: 49C :	: DSPY : GBC :	: FIELD :	: 040C 55XPWR:	: 4839 / 2 :	: 6,290,700:
: 74LS160 :	: COUNTER : DECADE :	: D-1 : 60 :	: P DIP 16: : 78/79 :	: 49C :	: DSPY : GBC :	: FIELD :	: 040C 55XPWR:	: 41694 / 7 :	: 54,202,200:
: 74LS161 :	: COUNTER : BINARY :	: D-1 : 57 :	: P DIP 16: : 77/78 :	: 49C :	: DSPY : GBC :	: FIELD :	: 040C 55XPWR:	: 23561 / 1 :	: 30,629,300:
: 74LS161 :	: COUNTER : BINARY :	: D-1 : 57 :	: P DIP 16: : 78/79 :	: 49C :	: DSPY : GBC :	: FIELD :	: 040C 55XPWR:	: 99999 / 15 :	: 198,265,600:
:	:	:	:	:	:	: FIELD :	:	: 52513 / 0 :	:
: 74LS174 :	: FLIP-FLOP : D :	: D-1 : 36 :	: P DIP 0: : 77/78 :	: 48C :	: DSPY : GBC :	: FIELD :	: 040C 55XPWR:	: 99999 / 42 :	: 171,913,300:
:	:	:	:	:	:	: FIELD :	:	: 32242 / 0 :	:
: 74LS174 :	: FLIP-FLOP : D :	: D-1 : 36 :	: P DIP 0: : 78/79 :	: 48C :	: DSPY : GBC :	: FIELD :	: 040C 55XPWR:	: 99999 / 59 :	: 366,707,900:
:	:	:	:	:	:	: FIELD :	:	: 99999 / 0 :	:
:	:	:	:	:	:	: FIELD :	:	: 82085 / 0 :	:
: 74LS174 :	: FLIP-FLOP : D :	: D-1 : 36 :	: P DIP 16: : 77/78 :	: 48C :	: DSPY : GBC :	: FIELD :	: 040C 55XPWR:	: 1745 / 0 :	: 2,268,500:
: 74LS174 :	: FLIP-FLOP : D :	: D-1 : 36 :	: P DIP 16: : 78/79 :	: 48C :	: DSPY : GBC :	: FIELD :	: 040C 55XPWR:	: 4202 / 0 :	: 5,462,600:

DIGITAL DEVICE DATA

VARIOUS TTL ,LOW POWER/SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MEET REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
74LS175	FLIP-FLOP D	D-1 24	P DIP 16: 77/78	45C	DSPY GBC	FIELD	040C 55ZPWR:	35727 / 11 46,445,100			
74LS175	FLIP-FLOP D	D-1 24	P DIP 16: 78/79	45C	DSPY GBC	FIELD	040C 55ZPWR:	99099 / 9 186,542,200			
						FIELD		43495 / 0			
74LS175	FLIP-FLOP D	D-1 24	P DIP 16: 77/78	45C	DSPY GBC	FIELD	040C 55ZPWR:	2066 / 0 2,685,000			
74LS175	FLIP-FLOP D	D-1 24	P DIP 16: 78/79	45C	DSPY GBC	FIELD	040C 55ZPWR:	4986 / 0 6,481,800			
74LS192	COUNTER BCD	D-1 50	P DIP 16: 77/78	49C	DSPY GBC	FIELD	040C 55ZPWR:	37303 / 2 48,493,900			
74LS192	COUNTER BCD	D-1 50	P DIP 16: 78/79	49C	DSPY GBC	FIELD	040C 55ZPWR:	35042 / 3 45,554,600			
74LS193	COUNTER BINARY	D-1 48	P DIP 16: 77/78	49C	DSPY GBC	FIELD	040C 55ZPWR:	13615 / 2 17,950,500			
74LS193	COUNTER BINARY	D-1 48	P DIP 16: 78/79	49C	DSPY GBC	FIELD	040C 55ZPWR:	37129 / 9 48,267,700			
74LS194A	SHIFT REG	D-1 47	P DIP 16: 77/78	48C	DSPY GBC	FIELD	040C 55ZPWR:	1053 / 0 1,368,900			
74LS194A	SHIFT REG	D-1 47	P DIP 16: 78/79	48C	DSPY GBC	FIELD	040C 55ZPWR:	3212 / 0 4,175,600			
74LS196	COUNTER DECADE	D-1 39	P DIP 14: 78/79	48C	DSPY GBC	FIELD	040C 55ZPWR:	6 / 0 7,800			
74LS20	GATE	D-1 2	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55ZPWR:	23613 / 3 30,696,900			
74LS20	GATE	D-1 2	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55ZPWR:	59348 / 2 77,152,400			
74LS21	GATE	D-1 2	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55ZPWR:	3231 / 0 4,200,300			
74LS21	GATE	D-1 2	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55ZPWR:	10012 / 0 13,015,600			
74LS21	GATE	D-1 2	P DIP 14: 76/78	26C	COMP GBC	FIELD	025C	10 / 0 100,800			
74LS21	GATE	D-1 2	P DIP 14: 78/78	26C	COMP GBC	FIELD	025C	10 / 0 28,800			
74LS260	GATE	D-1 2	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55ZPWR:	28 / 0 36,400			
74LS260	GATE	D-1 2	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55ZPWR:	1737 / 0 2,258,100			
74LS266	GATE	D-1 4	P DIP 14: 76/78	29C	COMP GBC	FIELD	025C	6 / 0 33,264			
74LS266	GATE	D-1 4	P DIP 14: 78/78	29C	COMP GBC	FIELD	025C	6 / 0 17,280			
74LS27	GATE	D-1 3	P DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55ZPWR:	16724 / 3 21,741,200			

DIGITAL DEVICE DATA

VARIOUS TTL, LOW POWER/SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
74LS27	GATE	D-1 3	P DIP 14: 78/79	42C	DSPY GPC	FIELD	040C 55%PWR	36312 / 2 47,205,600			
74LS273	FLIP-FLOP D	D-1 50	P DIP 20: 76/78	48C	COMP GBC	FIELD	025C	3 / 0 16,632			
74LS273	FLIP-FLOP D	D-1 50	P DIP 20: 76/78	48C	COMP GBC	FIELD	025C	3 / 0 8,640			
74LS32	GATE	D-1 4	P DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55%PWR	24265 / 2 31,544,500			
74LS32	GATE	D-1 4	P DIP 14: 78/79	42C	DSPY GBC	FIELD	040C 55%PWR	53236 / 7 69,206,800			
74LS51	GATE	D-1 6	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55%PWR	23207 / 17 30,169,100			
74LS51	GATE	D-1 6	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55%PWR	50988 / 11 66,284,400			
74LS74	FLIP-FLOP D	D-1 12	P DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55%PWR	99999 / 42 200,305,300			
						FIELD		54082 / 0			
74LS74	FLIP-FLOP D	D-1 12	P DIP 14: 78/79	42C	DSPY GBC	FIELD	040C 55%PWR	99999 / 41 436,009,600			
						FIELD		99999 / 0			
						FIELD		99999 / 0			
						FIELD		35395 / 0			
74LS75	LATCH BISTABLE	X 24	P DIP 16: 76/78	28C	COMP GBC	FIELD	025C	50 / 0 495,840			
74LS75	LATCH BISTABLE	X 24	P DIP 16: 78/78	28C	COMP GBC	FIELD	025C	50 / 0 144,000			

SIGNETICS		:MANUFACTURER					RELIABILITY ANALYSIS CENTER				
TTL ,LOW POWER/SCHOTTKY,ION IMPLANT		:OPERATIONAL TYPE									
: PART	: DEVICE	: SCR.N.	: PACKAGE/	: JCT.*	: EQUIP.	: DATA	: STRESS	: #TESTED/	:MPEF REPORT NO.:		
: NO.	: FUNCTION	: CLASS	: PINS	: TEMP.	: TYPE	: CLASS.	: LEVEL	: #FAILED	:/QTY FAILED	:	
:	: CIRCUIT	: NO.	: TEST	:	: APPL.	: TEST	:	: PART	:	:	
:	: FUNCTION	: GATES	: DATE	:	: ENV.	: TYPE	:	: HOURS	:	:	
: 54LS109	: FLIP-FLOP	: A-2/N	: P DIP 16:	: 74C	: RADR	: RELDEN	: -054C 071C	: 209 / 0	:	:	
:	: JK	: 16	: 76/77	:	: AU	: TCVCPC	: 6CY 2. 27WZ	: 10,032:	:	:	
:	:	:	:	:	:	:	:	:	:	:	

DIGITAL DEVICE DATA

ADVANCED MICRO DEVICES TTL SCHOTTKY		MANUFACTURER OPERATIONAL TYPE		RELIABILITY ANALYSIS CENTER							
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
25S09	REGISTER D	D-1 3R	P DIP 16: 76/78	63C	COMP GBC	FIELD	025C	0 / 0 49,896			
25S09	REGISTER D	D-1 3R	P DIP 16: 77/78	78C	DSPY GBC	FIELD	040C 55XPWR	120 / 0 156,000			
25S09	REGISTER D	D-1 3R	P DIP 16: 78/78	63C	COMP GBC	FIELD	025C	0 / 0 25,920			
25S09	REGISTER D	D-1 3R	P DIP 16: 78/79	78C	DSPY GBC	FIELD	040C 55XPWR	1461 / 0 1,899,300			
26S02	FLIP-FLOP MONOSTABLE	D-1 14	P DIP 16: 77/78	64C	DSPY GBC	FIELD	040C 55XPWR	929 / 1 1,207,700			
26S02	FLIP-FLOP MONOSTABLE	D-1 14	P DIP 16: 78/79	64C	DSPY GBC	FIELD	040C 55XPWR	7491 / 2 9,738,300			
2918	REGISTER D	D-1 30	P DIP 16: 76/78	65C	COMP GBC	FIELD	025C	3 / 0 31,200			
2918	REGISTER D	D-1 30	P DIP 16: 76/78	65C	COMP GBC	FIELD	025C	15 / 0 155,520			
2918	REGISTER D	D-1 30	P DIP 16: 76/78	65C	COMP GBC	FIELD	025C	12 / 0 66,528			
2918	REGISTER D	D-1 30	P DIP 16: 78/78	65C	COMP GBC	FIELD	025C	3 / 0 8,400			
2918	REGISTER D	D-1 30	P DIP 16: 78/78	65C	COMP GBC	FIELD	025C	15 / 0 43,200			
2918	REGISTER D	D-1 30	P DIP 16: 78/78	65C	COMP GBC	FIELD	025C	12 / 0 34,560			

FAIRCHILD SEMI TTL SCHOTTKY		MANUFACTURER OPERATIONAL TYPE		RELIABILITY ANALYSIS CENTER							
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
74S109	FLIP-FLOP JK	D 16	H DIP 16: 77/78	54C	DSPY GBC	FIELD	040C 55XPWR	16012 / 5 20,815,600			
74S109	FLIP-FLOP JK	D 16	H DIP 16: 78/79	54C	DSPY GBC	FIELD	040C 55XPWR	26182 / 3 34,036,600			
74S140	INTERFACE LINE DRIVER	D-1 2	P DIP 14: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	17095 / 2 22,223,500			
74S140	INTERFACE LINE DRIVER	D-1 2	P DIP 14: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	16981 / 1 22,075,300			
74S30	GATE	D-1 1	P DIP 14: 77/77	28C	INTR GBC	CHECK OPEPATE	025C	1 / 0 44C			
9S41	GATE	D-1 4	P DIP 16: 77/78	53C	DSPY GBC	FIELD	040C 55XPWR	473 / 0 614,900			

DIGITAL DEVICE DATA

FAIRCHILD SEMI
TTL, SCHOTTKYMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	FOUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEP REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATFS	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
9S41	GATE	D-1	P DIP 16	53C	DSPY	FIELD	040C 55XPWR	1562 / 0	
		4	78/79		GBC			2,030,600	
9S42	GATE	D-1	P DIP 16	29C	COMP	FIELD	025C	9 / 0	
		6	76/78		GBC			93,600	
9S42	GATE	D-1	P DIP 16	29C	COMP	FIELD	025C	3 / 0	
		6	76/78		GBC			16,632	
9S42	GATE	D-1	P DIP 16	29C	COMP	FIELD	025C	9 / 0	
		6	78/78		GBC			25,920	
9S42	GATE	D-1	P DIP 16	29C	COMP	FIELD	025C	3 / 0	
		6	78/78		GBC			8,640	
93S00	SHIFT REG	B-1	H DIP 16	61C	COMP	RELDEN	025C	9 / 0	
		45	78/78		GT			3,164	
93S10	COUNTER DECADE	D	H DIP 16	77C	DSPY	FIELD	040C 55XPWR	5268 / 2	
		54	77/78		GBC			6,848,400	
93S10	COUNTER DECADE	D	H DIP 16	77C	DSPY	FIELD	040C 55XPWR	4842 / 3	
		54	78/79		GBC			6,294,600	
93S16	COUNTER BINARY	B-1	H DIP 16	62C	COMP	RELDEN	025C	3 / 0	
		54	78/78		GT			1,055	
93S16	COUNTER BINARY	D	H DIP 16	77C	DSPY	FIELD	040C 55XPWR	21610 / 2	
		54	77/78		GBC			28,093,000	
93S16	COUNTER BINARY	D	H DIP 16	77C	DSPY	FIELD	040C 55XPWR	90476 / 9	
		54	78/79		GBC			117,618,800	

INTEL
TTL, SCHOTTKYMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	FOUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEP REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATFS	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
3205	DECODER BINARY	B-1	H DIP 16	50C	COMP	RELDEN	025C	12 / 0	
		N/R	78/78		GT			4,218	
3205	DECODER BINARY	D-1	P DIP 16	35C	INTR	CHECK	025C	10 / 0	
		N/R	77/77		GBC	OPERATE		4,400	
3404	LATCH	D-1	P DIP 16	35C	INTR	CHECK	025C	6 / 0	
		N/R	77/77		GBC	OPERATE		2,640	

DIGITAL DEVICE DATA

MOTOROLA SEMI
TTL ,SCHOTTKY:MANUFACTURER
:OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

: PART NO. :	: DEVICE FUNCTION :	: SCR. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MEEF REPORT NO. /QTY FAILED :
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:
: 6875 :	: GENERATOR :	: D-1 :	: P DIP 16 :	: 65C :	: DSY :	: FIELD :	: 0400 553PMR :	: 21 / 0 :	: :
:	: CLOCK DRIVER :	: 72 :	: 78/79 :	:	: GBC :	:	:	: 27,300 :	:

SIGNETICS
TTL ,SCHOTTKY:MANUFACTURER
:OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

: PART NO. :	: DEVICE FUNCTION :	: SCR. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MEEF REPORT NO. /QTY FAILED :
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:
: 54S00 :	: GATE :	: X 4 :	: H DIP 14: 77/77 :	: 134C :	: NR N/R :	: LIFE OP DYN :	: 125C :	: 132 / 0 : 132,000:	:
:	:	:	:	:	:	: LIFE EM :	:	: 132 / 0 :	:
: 54S03 :	: GATE :	: X 4 :	: H DIP 14: 77/77 :	: 134C :	: NR N/R :	: LIFE OP DYN :	: 125C :	: 134 / 0 : 134,000:	:
:	:	:	:	:	:	: LIFE EM :	:	: 134 / 1 : 2289/ 1	:
: 54S05 :	: INVERTER :	: X 6 :	: H DIP 14: 77/77 :	: 138C :	: NR N/R :	: LIFE OP DYN :	: 125C :	: 134 / 0 : 134,000:	:
:	:	:	:	:	:	: LIFE EM :	:	: 134 / 0 :	:
: 54S10 :	: GATE :	: X 3 :	: H DIP 14: 77/77 :	: 132C :	: NR N/R :	: LIFE OP DYN :	: 125C :	: 134 / 0 : 134,000:	:
:	:	:	:	:	:	: LIFE EM :	:	: 134 / 0 :	:
: 54S11 :	: GATE :	: X 3 :	: H DIP 14: 77/77 :	: 136C :	: NR N/R :	: LIFE OP DYN :	: 125C :	: 134 / 0 : 134,000:	:
:	:	:	:	:	:	: LIFE EM :	:	: 134 / 0 :	:
: 54S22 :	: GATE :	: X 2 :	: H DIP 14: 77/77 :	: 129C :	: NR N/R :	: LIFE OP DYN :	: 125C :	: 135 / 0 : 133,000:	:
:	:	:	:	:	:	: LIFE EM :	:	: 135 / 0 :	:
: 54S51 :	: GATE :	: X 6 :	: H DIP 14: 77/77 :	: 135C :	: NR N/R :	: LIFE OP DYN :	: 125C :	: 132 / 0 : 132,000:	:
:	:	:	:	:	:	: LIFE EM :	:	: 132 / 1 : 2290/ 1	:
: 54S64 :	: GATE :	: X 5 :	: H DIP 14: 77/77 :	: 130C :	: NR N/R :	: LIFE OP DYN :	: 125C :	: 133 / 0 : 133,000:	:
:	:	:	:	:	:	: LIFE EM :	:	: 133 / 0 :	:
: 74S00 :	: GATE :	: D 4 :	: H DIP 14: 77/77 :	: 134C :	: NR N/R :	: LIFE OP DYN :	: 125C :	: 70 / 0 : 70,000:	:

DIGITAL DEVICE DATA

SIGNATICS
TTL SCHOTTKYMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCR. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEP REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
						LIFE		70 / 0	
						EM			
74S00	GATE	D 4	H DIP 14 77/77	159C	NR N/R	LIFE STGLIFE	150C	56 / 0 56,000	
						LIFE		56 / 0	
						EM			
74S00	GATE	D 4	H DIP 14 77/77	159C	NR N/R	LIFE STGLIFE	150C	25 / 0 25,000	
						LIFE		25 / 0	
						EM			
74S00	GATE	D-1 4	P DIP 14 77/77	137C	NR N/R	LIFE OP DYN	125C	46 / 0 46,000	
						LIFE		46 / 0	
						EM			
74S00	GATE	D-1 4	P DIP 14 77/77	97C	NR N/R	LIFE OP DYN	085C	79 / 0 80,000	
						LIFE		79 / 0	
						EM			
74S00	GATE	D-1 4	P DIP 14 77/77	137C	NR N/R	LIFE OP DYN	125C	85 / 0 85,000	
						LIFE		85 / 0	
						EM			
74S00	GATE	D-1 4	P DIP 14 77/77	137C	NR N/R	LIFE OP DYN	125C	40 / 0 81,000	
						LIFE		40 / 0	
						EM			
74S00	GATE	D-1 4	P DIP 14 77/77	137C	NR N/R	LIFE OP DYN	125C	52 / 0 105,000	
						LIFE		52 / 0	
						EM			
74S00	GATE	D-1 4	P DIP 14 77/77	137C	NR N/R	LIFE OP DYN	125C	45 / 0 45,000	
						LIFE		45 / 1	2291/ 1
						EM			
74S00	GATE	D-1 4	P DIP 14 77/77	137C	NR N/R	LIFE OP DYN	125C	25 / 0 50,000	
						LIFE		25 / 0	
						EM			
74S00	GATE	D-1 4	P DIP 14 77/77	162C	NR N/R	LIFE STGLIFE	150C	92 / 0 92,000	
						LIFE		92 / 0	
						EM			
74S00	GATE	D-1 4	P DIP 14 77/77	162C	NR N/R	LIFE STGLIFE	150C	45 / 0 91,000	
						LIFE		45 / 1	2292/ 1
						EM			

DIGITAL DEVICE DATA

SIGNETICS TTL SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	REF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
74S00	GATE	X	H DIP 14: 77/77	134C	NR	LIFE	125C	56 / 0		
		4			N/R	OP DYN		56,000		
						LIFE		56 / 0		
						EM				
74S10	GATE	D	H DIP 14: 77/77	132C	NR	LIFE	125C	45 / 0		
		3			N/R	OP DYN		45,000		
						LIFE		45 / 0		
						EM				
74S10	GATE	D-1	P DIP 14: 77/77	134C	NR	LIFE	125C	53 / 0		
		3			N/R	OP DYN		107,000		
						LIFE		53 / 0		
						EM				
74S10	GATE	D-1	P DIP 14: 77/77	134C	NR	LIFE	125C	45 / 0		
		3			N/R	OP DYN		45,000		
						LIFE		45 / 0		
						EM				
74S10	GATE	D-1	P DIP 14: 77/77	159C	NR	LIFE	150C	45 / 0		
		3			N/R	STGLIFE		91,000		
						LIFE		45 / 0		
						EM				
74S112	FLIP-FLOP JK	D-1	P DIP 16: 77/77	147C	NR	LIFE	125C	92 / 0		
		16			N/R	OP DYN		92,000		
						LIFE		92 / 0		
						EM				
74S112	FLIP-FLOP JK	D-1	P DIP 16: 77/77	147C	NR	LIFE	125C	45 / 0		
		16			N/R	OP DYN		45,000		
						LIFE		45 / 1	2293/ 1	
						EM				
74S112	FLIP-FLOP JK	D-1	P DIP 16: 77/77	172C	NR	LIFE	150C	46 / 0		
		16			N/R	STGLIFE		46,000		
						LIFE		46 / 0		
						EM				
74S20	GATE	D-1	P DIP 14: 77/77	131C	NR	LIFE	125C	52 / 0		
		2			N/R	OP DYN		105,000		
						LIFE		52 / 0		
						EM				
74S20	GATE	D-1	P DIP 14: 77/77	156C	NR	LIFE	150C	46 / 0		
		2			N/R	STGLIFE		93,000		
						LIFE		46 / 2	2294/ 2	
						EM				
74S40	BUFFER	D-1	P DIP 14: 77/77	139C	NR	LIFE	125C	46 / 0		
		2			N/R	OP DYN		46,000		
						LIFE		46 / 0		
						EM				
74S40	BUFFER	D-1	P DIP 14: 77/77	164C	NR	LIFE	150C	46 / 0		
		2			N/R	STGLIFE		46,000		

DIGITAL DEVICE DATA

SIGNETICS
TTL SCHOTTKYMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EMIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. :/QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
						LIFE EM		46 / 0	
8T93	INVERTER	D-1 6	P DIP 14: 77/78	52C	DSPY GBC	FIELD	040C 55XPWR	1422 / 6	1,848,600
8T93	INVERTER	D-1 6	P DIP 14: 78/79	52C	DSPY GBC	FIELD	040C 55XPWR	5617 / 5	7,302,100
82S31	MULTIPLEXER	D-1 17	P DIP 16: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	80 / 0	104,000
82S31	MULTIPLEXER	D-1 17	P DIP 16: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	974 / 0	1,266,200
82S42	GATE	D-1 20	P DIP 14: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	1680 / 0	2,184,000
82S42	GATE	D-1 20	P DIP 14: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	7696 / 0	10,004,800
82S52	DECODER BCD/DECIMAL	D-1 18	P DIP 16: 77/77	135C	NR N/R	LIFE OP DYN	125C	50 / 0	101,000
						LIFE EM		50 / 0	
82S62	GENERATOR	D-1 19	P DIP 14: 77/77	135C	NR N/R	LIFE OP DYN	125C	46 / 0	46,000
						LIFE EM		46 / 0	
82S62	GENERATOR	D-1 19	P DIP 14: 77/77	160C	NR N/R	LIFE STGLIFE	150C	46 / 0	46,000
						LIFE EM		46 / 0	
82S62	GENERATOR	D-1 10	P DIP 14: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	661 / 2	859,300
82S62	GENERATOR	D-1 10	P DIP 14: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	1323 / 0	1,719,900
82S83	ADDER BCD	D 66	P DIP 16: 78/79	65C	DSPY GBC	FIELD	040C 55XPWR	9 / 0	11,700
82S83	ADDER BCD	D-1 66	P DIP 16: 77/78	65C	DSPY GBC	FIELD	040C 55XPWR	171 / 0	222,300
82S83	ADDER BCD	D-1 66	P DIP 16: 78/79	65C	DSPY GBC	FIELD	040C 55XPWR	2227 / 0	2,895,100
82S90	COUNTER DECADE	D-1 44	P DIP 14: 77/78	76C	DSPY GBC	FIELD	040C 55XPWR	7327 / 8	9,525,100
82S90	COUNTER DECADE	D-1 44	P DIP 14: 78/79	76C	DSPY GBC	FIELD	040C 55XPWR	8992 / 7	11,689,600

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS TTL ,SCHOTTKY		:MANUFACTURER :OPERATIONAL TYPE				:RELIABILITY ANALYSIS CENTER				
: PART : NO.	: DEVICE : FUNCTION	: SCR.N. : CLASS	: PACKAGE/ : PINS	: JCT.* : TEMP.	: EQUIP. : TYPE	: DATA : CLASS.	: STRESS : LEVEL	: #TESTED/ : #FAILED	: MTTF REPORT NO.: : /QTY FAILED	
:	: CIRCUIT : FUNCTION	: NO. : GATES	: TEST : DATE	:	: APPL. : ENV.	: TEST : TYPE	:	: PART : HOURS	:	
: 54S00	: GATE	: B-2/N : 4	: H DIP 14: : 76/77	: 78C	: RADR : AU	: REIDEM : TCVPC	: -054C 071C : 6CY 2. 27HZ	: 209 / 0 : 10,032	:	
: 54S00	: GATE	: B-1 : 4	: H DIP 14: : 78/78	: 32C	: COMP : GT	: REIDEM : GT	: 025C	: 51 / 0 : 17,927	:	
: 54S00	: GATE	: D : 4	: H DIP 14: : 77/78	: 47C	: DSPY : GBC	: FIELD	: 040C 552PWR	: 168 / 0 : 219,400	:	
: 54S00	: GATE	: D : 4	: H DIP 14: : 78/79	: 47C	: DSPY : GBC	: FIELD	: 040C 552PWR	: 122 / 1 : 159,600	:	
: 54S04	: INVERTER	: B-1 : 6	: H DIP 14: : 78/78	: 36C	: COMP : GT	: REIDEM	: 025C	: 60 / 0 : 21,090	:	
: 54S10	: GATE	: B-1 : 3	: H DIP 14: : 78/78	: 30C	: COMP : GT	: REIDEM	: 025C	: 39 / 0 : 13,709	:	
: 54S195	: SHIFT REG	: B-1 : 53	: H DIP 14: : 78/78	: 63C	: COMP : GT	: REIDEM	: 025C	: 27 / 0 : 9,491	:	
: 54S20	: GATE	: B-1 : 2	: H DIP 14: : 78/78	: 29C	: COMP : GT	: REIDEM	: 025C	: 9 / 0 : 3,164	:	
: 54S280	: GENERATOR	: B-1/JB: : 46	: H DIP 14: : 77/79	: 59C	: RADR : GF	: FIELD	: 025C	: 4 / 0 : 54,720	:	
: 54S280	: GENERATOR	: B-1/JB: : 46	: H DIP 14: : 79/79	: 59C	: RADR : GF	: FIELD	: 025C	: 4 / 0 : 17,280	:	
: 54S40	: BUFFER	: B-1 : 2	: H DIP 14: : 78/78	: 35C	: COMP : GT	: REIDEM	: 025C	: 9 / 0 : 3,164	:	
: 54S74	: FLIP-FLOP : D	: B-1 : 12	: H DIP 14: : 78/78	: 33C	: COMP : GT	: REIDEM	: 025C	: 63 / 0 : 22,145	:	
: 54S85	: COMPARATOR	: B-1/JB: : 31	: H DIP 16: : 77/79	: 58C	: RADR : GF	: FIELD	: 025C	: 14 / 0 : 191,520	:	
: 54S85	: COMPARATOR	: B-1/JB: : 31	: H DIP 16: : 77/79	: 58C	: RADR : GF	: FIELD	: 025C	: 56 / 0 : 766,080	:	
: 54S85	: COMPARATOR	: B-1/JB: : 31	: H DIP 16: : 79/79	: 58C	: RADR : GF	: FIELD	: 025C	: 14 / 0 : 60,480	:	
: 54S85	: COMPARATOR	: B-1/JB: : 31	: H DIP 16: : 79/79	: 58C	: RADR : GF	: FIELD	: 025C	: 56 / 0 : 241,920	:	
: 54S86	: GATE	: B-1/JB: : 4	: H DIP 14: : 77/79	: 48C	: RADR : GF	: FIELD	: 025C	: 58 / 0 : 793,440	:	
: 54S86	: GATE	: B-1/JB: : 4	: H DIP 14: : 77/79	: 48C	: RADR : GF	: FIELD	: 025C	: 14 / 0 : 191,520	:	
: 54S86	: GATE	: B-1/JB: : 4	: H DIP 14: : 77/79	: 48C	: RADR : GF	: FIELD	: 025C	: 17 / 0 : 232,560	:	
: 54S86	: GATE	: B-1/JB: : 4	: H DIP 14: : 79/79	: 48C	: RADR : GF	: FIELD	: 025C	: 17 / 0 : 73,440	:	
: 54S86	: GATE	: B-1/JB: : 4	: H DIP 14: : 79/79	: 48C	: RADR : GF	: FIELD	: 025C	: 58 / 0 : 250,560	:	
: 54S86	: GATE	: B-1/JB: : 4	: H DIP 14: : 79/79	: 48C	: RADR : GF	: FIELD	: 025C	: 14 / 0 : 60,480	:	
: 74S00	: GATE	: D-1 : 4	: P DIP 14: : 77/77	: 33C	: INTR : GBC	: CHECK : OPERATE	: 025C	: 4 / 0 : 1,160	:	

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS TTL SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
74S02	GATE	D-1	P DIP 14: 36C	INTR	CHECK	025C		2 / 0			
		4	77/77	GBC	OPERATE			880			
74S02	GATE	D-1	P DIP 14: 51C	DSPY	FIELD	040C	55%PWR:	20506 / 1			
		4	77/78	GBC				26,657,800			
74S02	GATE	D-1	P DIP 14: 51C	DSPY	FIELD	040C	55%PWR:	38371 / 3			
		4	78/79	GBC				49,882,300			
74S04	INVERTER	D-1	P DIP 14: 37C	INTR	CHECK	025C		1 / 0			
		6	77/77	GBC	OPERATE			440			
74S08	GATE	D-1	P DIP 14: 53C	DSPY	FIELD	040C	55%PWR:	1633 / 0			
		4	77/78	GBC				2,122,900			
74S08	GATE	D-1	P DIP 14: 53C	DSPY	FIELD	040C	55%PWR:	8368 / 0			
		4	78/79	GBC				10,878,400			
74S10	GATE	D-1	P DIP 14: 31C	INTR	CHECK	025C		2 / 0			
		3	77/77	GBC	OPERATE			880			
74S10	GATE	D-1	P DIP 14: 46C	DSPY	FIELD	040C	55%PWR:	14106 / 8			
		3	77/78	GBC				18,337,800			
74S10	GATE	D-1	P DIP 14: 46C	DSPY	FIELD	040C	55%PWR:	53259 / 12			
		3	78/79	GBC				69,236,700			
74S132	GATE	D-1	P DIP 14: 59C	DSPY	FIELD	040C	55%PWR:	2105 / 0			
	SCHMITT TRIGGER	4	77/78	GBC				2,736,500			
74S132	GATE	D-1	P DIP 14: 59C	DSPY	FIELD	040C	55%PWR:	7936 / 2			
	SCHMITT TRIGGER	4	78/79	GBC				10,316,800			
74S133	GATE	D-1	P DIP 16: 42C	DSPY	FIELD	040C	55%PWR:	2180 / 3			
		1	77/78	GBC				2,834,000			
74S133	GATE	D-1	P DIP 16: 42C	DSPY	FIELD	040C	55%PWR:	7112 / 3			
		1	78/79	GBC				9,245,600			
74S134	GATE	D-1	P DIP 16: 45C	DSPY	FIELD	040C	55%PWR:	92 / 0			
		1	77/78	GBC				119,600			
74S134	GATE	D-1	P DIP 16: 45C	DSPY	FIELD	040C	55%PWR:	2751 / 1			
		1	78/79	GBC				3,576,300			
74S138	DECODER/DEMULTIPLX	D-1	P DIP 16: 65C	DSPY	FIELD	040C	55%PWR:	1290 / 1			
		16	77/78	GBC				1,677,000			
74S138	DECODER/DEMULTIPLX	D-1	P DIP 16: 65C	DSPY	FIELD	040C	55%PWR:	7417 / 0			
		16	78/79	GBC				9,642,100			
74S139	DECODER/DEMULTIPLX	D-1	P DIP 16: 55C	INTR	CHECK	025C		2 / 0			
		18	77/77	GBC	OPERATE			880			
74S139	DECODER/DEMULTIPLX	D-1	P DIP 16: 70C	DSPY	FIELD	040C	55%PWR:	473 / 1			
		18	77/78	GBC				614,900			
74S139	DECODER/DEMULTIPLX	D-1	P DIP 16: 70C	DSPY	FIELD	040C	55%PWR:	3359 / 0			
		18	78/79	GBC				4,366,700			
74S151	MULTIPLYER	D-1	P DIP 16: 63C	DSPY	FIELD	040C	55%PWR:	337 / 0			
		17	77/78	GBC				438,100			
74S151	MULTIPLYER	D-1	P DIP 16: 63C	DSPY	FIELD	040C	55%PWR:	1772 / 0			
		17	78/79	GBC				2,303,600			
74S153	MULTIPLYER	D-1	P DIP 16: 63C	DSPY	FIELD	040C	55%PWR:	2396 / 2			
		16	77/78	GBC				3,114,800			

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS
TTL, SCHOTTKYMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	DEFECT REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
74S153	MULTIPLEXER	D-1 16	P DIP 16: 78/79	63C	DSPY GBC	FIELD	040C 55%PWR	4874 / 0 6,336,200	
74S157	MULTIPLEXER	D-1 15	P DIP 16: 77/78	65C	DSPY GBC	FIELD	040C 55%PWR	28 / 0 36,400	
74S157	MULTIPLEXER	D-1 15	P DIP 16: 78/79	65C	DSPY GBC	FIELD	040C 55%PWR	932 / 0 1,211,600	
74S158	MULTIPLEXER	D-1 15	P DIP 16: 78/79	60C	DSPY GBC	FIELD	040C 55%PWR	5039 / 2 6,550,700	
74S163	COUNTER BINARY	D 53	H DIP 16: 77/78	83C	DSPY GBC	FIELD	040C 55%PWR	420 / 0 546,000	
74S163	COUNTER BINARY	D 53	H DIP 16: 78/79	83C	DSPY GBC	FIELD	040C 55%PWR	1925 / 0 2,502,500	
74S163	COUNTER BINARY	D-1 53	P DIP 16: 76/78	68C	COMP GBC	FIELD	025C	12 / 0 122,800	
74S163	COUNTER BINARY	D-1 53	P DIP 16: 76/78	68C	COMP GBC	FIELD	025C	20 / 0 201,600	
74S163	COUNTER BINARY	D-1 53	P DIP 16: 77/78	83C	DSPY GBC	FIELD	040C 55%PWR	518 / 2 673,400	
74S163	COUNTER BINARY	D-1 53	P DIP 16: 78/78	68C	COMP GBC	FIELD	025C	12 / 0 34,560	
74S163	COUNTER BINARY	D-1 53	P DIP 16: 78/78	68C	COMP GBC	FIELD	025C	20 / 0 57,600	
74S163	COUNTER BINARY	D-1 53	P DIP 16: 78/79	83C	DSPY GBC	FIELD	040C 55%PWR	2344 / 0 3,047,200	
74S169	COUNTER BINARY	D 66	H DIP 16: 77/78	86C	DSPY GBC	FIELD	040C 55%PWR	924 / 0 1,201,200	
74S169	COUNTER BINARY	D 66	H DIP 16: 78/79	86C	DSPY GBC	FIELD	040C 55%PWR	6644 / 3 8,637,200	
74S174	FLIP-FLOP D	D-1 36	P DIP 16: 77/78	81C	DSPY GBC	FIELD	040C 55%PWR	1867 / 0 2,427,100	
74S174	FLIP-FLOP D	D-1 36	P DIP 16: 78/79	81C	DSPY GBC	FIELD	040C 55%PWR	6286 / 0 8,171,800	
74S181	LOGIC UNIT ARITHMETIC	D 63	H DIP 24: 77/78	83C	DSPY GBC	FIELD	040C 55%PWR	120 / 0 156,000	
74S181	LOGIC UNIT ARITHMETIC	D 63	H DIP 24: 78/79	83C	DSPY GBC	FIELD	040C 55%PWR	1461 / 0 1,899,300	
74S181	LOGIC UNIT ARITHMETIC	D-1 63	P DIP 24: 77/78	83C	DSPY GBC	FIELD	040C 55%PWR	60 / 0 78,000	
74S181	LOGIC UNIT ARITHMETIC	D-1 63	P DIP 24: 78/79	83C	DSPY GBC	FIELD	040C 55%PWR	1175 / 0 1,527,500	
74S182	GENERATOR	D-1 19	P DIP 16: 77/78	64C	DSPY GBC	FIELD	040C 55%PWR	391 / 0 508,300	
74S182	GENERATOR	D-1 19	P DIP 16: 78/79	64C	DSPY GBC	FIELD	040C 55%PWR	1541 / 0 2,003,300	
74S195	SHIFT REG	D-1 41	P DIP 16: 77/78	72C	DSPY GBC	FIELD	040C 55%PWR	1191 / 0 1,548,300	

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS TTL, SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SERIAL CLASS	PACKAGE/ PINS	JCT. * TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TFST TYPE		PART HOURS		
74S195	SHIFT REG	D-1 41	P DIP 16: 78/79	72C	DSPY GBC	FIELD	040C 55%PWR	4902 / 0 6,372,600		
74S196	COUNTER DECADE	D-1 39	P DIP 14: 77/78	78C	DSPY GBC	FIELD	040C 55%PWR	664 / 0 863,200		
74S196	COUNTER DECADE	D-1 39	P DIP 14: 78/79	78C	DSPY GBC	FIELD	040C 55%PWR	2161 / 1 2,809,300		
74S260	GATE	D-1 2	P DIP 14: 77/78	51C	DSPY GBC	FIELD	040C 55%PWR	28 / 0 36,400		
74S260	GATE	D-1 2	P DIP 14: 78/79	51C	DSPY GBC	FIELD	040C 55%PWR	966 / 0 1,255,800		
74S280	GENERATOR	D-1 46	P DIP 14: 78/79	74C	DSPY GBC	FIELD	040C 55%PWR	13 / 0 16,900		
74S283	ADDER FULL	D-1 42	P DIP 16: 77/78	83C	DSPY GBC	FIELD	040C 55%PWR	80 / 0 104,000		
74S283	ADDER FULL	D-1 42	P DIP 16: 78/79	83C	DSPY GBC	FIELD	040C 55%PWR	974 / 0 1,266,200		
74S30	GATE	D-1 1	P DIP 14: 77/78	43C	DSPY GBC	FIELD	040C 55%PWR	1751 / 0 2,276,300		
74S30	GATE	D-1 1	P DIP 14: 78/79	43C	DSPY GBC	FIELD	040C 55%PWR	7401 / 0 9,621,300		
74S32	GATE	D-1 4	P DIP 14: 77/78	55C	DSPY GBC	FIELD	040C 55%PWR	6946 / 0 9,029,800		
74S32	GATE	D-1 4	P DIP 14: 78/79	55C	DSPY GBC	FIELD	040C 55%PWR	15654 / 0 20,350,200		
74S37	BUFFER	D-1 4	P DIP 14: 77/78	57C	DSPY GBC	FIELD	040C 55%PWR	992 / 1 1,289,600		
74S37	BUFFER	D-1 4	P DIP 14: 78/79	57C	DSPY GBC	FIELD	040C 55%PWR	1272 / 0 1,653,600		
74S373	LATCH D	D-1 58	P DIP 20: 76/78	67C	COMP GBC	FIELD	025C	21 / 9 218,400		
74S373	LATCH D	D-1 58	P DIP 20: 76/78	67C	COMP GBC	FIELD	025C	21 / 0 116,424		
74S373	LATCH D	D-1 58	P DIP 20: 78/78	67C	COMP GBC	FIELD	025C	21 / 0 60,480		
74S373	LATCH D	D-1 58	P DIP 20: 76/78	67C	COMP GBC	FIELD	025C	21 / 0 60,480		
74S374	FLIP-FLOP D	D-1 58	P DIP 20: 76/78	36C	COMP GBC	FIELD	025C	24 / 0 245,760		
74S374	FLIP-FLOP D	D-1 58	P DIP 20: 76/78	36C	COMP GBC	FIELD	025C	75 / 1 780,000		
74S374	FLIP-FLOP D	D-1 58	P DIP 20: 76/78	36C	COMP GBC	FIELD	025C	9 / 0 93,312		
74S374	FLIP-FLOP D	D-1 58	P DIP 20: 76/78	36C	COMP GBC	FIELD	025C	80 / 0 806,400		
74S374	FLIP-FLOP D	D-1 58	P DIP 20: 77/78	51C	DSPY GBC	FIELD	040C 55%PWR	53 / 0 68,900		

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS TTL ,SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
74S374	FLIP-FLOP D	D-1 58	P DIP 20: 78/78	36C	COMP GBC	FIELD	025C	24 / 0 69,120		
74S374	FLIP-FLOP D	D-1 58	P DIP 20: 78/78	36C	COMP GBC	FIELD	025C	75 / 0 216,000		
74S374	FLIP-FLOP D	D-1 58	P DIP 20: 78/78	36C	COMP GBC	FIELD	025C	9 / 0 25,920		
74S374	FLIP-FLOP D	D-1 58	P DIP 20: 78/78	36C	COMP GBC	FIELD	025C	90 / 0 230,400		
74S374	FLIP-FLOP D	D-1 58	P DIP 20: 78/79	51C	DSPY GBC	FIELD	040C 55%PWR	178 / 0 231,400		
74S38	BUFFER	D-1 4	P DIP 14: 77/78	57C	DSPY GBC	FIELD	040C 55%PWR	1067 / 0 1,300,100		
74S38	BUFFER	D-1 4	P DIP 14: 78/79	57C	DSPY GBC	FIELD	040C 55%PWR	4355 / 0 5,061,500		
74S381	LOGIC UNIT ARITHMETIC	D-1 81	P DIP 20: 76/78	67C	COMP GBC	FIELD	025C	12 / 0 124,800		
74S381	LOGIC UNIT ARITHMETIC	D-1 81	P DIP 20: 76/78	67C	COMP GBC	FIELD	025C	6 / 0 73,264		
74S381	LOGIC UNIT ARITHMETIC	D-1 81	P DIP 20: 78/78	67C	COMP GBC	FIELD	025C	12 / 0 34,560		
74S381	LOGIC UNIT ARITHMETIC	D-1 81	P DIP 20: 78/78	67C	COMP GBC	FIELD	025C	6 / 0 17,280		
74S51	GATE	D-1 6	P DIP 14: 77/78	46C	DSPY GBC	FIELD	040C 55%PWR	12370 / 2 16,081,000		
74S51	GATE	D-1 6	P DIP 14: 78/79	46C	DSPY GBC	FIELD	040C 55%PWR	33322 / 6 43,318,600		
74S65	GATE	D-1 5	P DIP 14: 77/78	44C	DSPY GBC	FIELD	040C 55%PWR	43198 / 12 56,157,400		
74S65	GATE	D-1 5	P DIP 14: 78/79	44C	DSPY GBC	FIELD	040C 55%PWR	26444 / 12 34,377,200		
74S74	FLIP-FLOP D	D-1 12	P DIP 14: 77/77	41C	INTR GBC	CHECK OPERATE	025C	2 / 0 880		

VARIOUS TTL SCHOTTKY		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
: PART : NO.	: DEVICE : FUNCTION	: SCR.N. : CLASS	: PACKAGE/ : PINS	: JCT.* : TEM.P.	: EQUIP. : TYPE	: DATA : CLASS.	: STRESS : LEVEL	: #TESTED/ : #FAILED	: MFEF REPORT NO. : /QTY FAILED	:
:	: CIRCUIT : FUNCTION	: NO. : GATES	: TEST : DATE	:	: APPL. : ENV.	: TEST : TYPE	:	: PART : HOURS	:	:
: 54/74S112	: FLIP-FLOP	: NONE	: N/R DIP 16:	: 35C	: COMP	: FIELD	: 025C	: 3 / 0	:	:
:	: JK	: 16	: 77/79	:	: GB	:	:	: 57,702:	:	:
: 54/74S112	: FLIP-FLOP	: NONE	: N/R DIP 16:	: 35C	: COMP	: FIELD	: 025C	: 6 / 0	:	:
:	: JK	: 16	: 77/79	:	: GB	:	:	: 119,280:	:	:

DIGITAL DEVICE DATA

VARIOUS TTL SCHOTTKY		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
: PART : NO.	: DEVICE : FUNCTION	: SCR.N. : CLASS	: PACKAGE/ : PINS	: JCT.* : TEMP.	: EQUIP. : TYPE	: DATA : CLASS.	: STRESS : LEVEL	: #TESTED/ : #FAILED	: MFEF REPORT NO.: : /QTY FAILED	
:	: CIRCUIT : FUNCTION	: NO. : GATES	: TFST : DATE	:	: APPL. : ENV.	: TEST : TYPE	:	: PART : HOURS	:	
: 54S00	: GATE	: B-1/JB: : 4	: H DIP 14: : 77/79	: 33C	: RADR : GF	: FIELD	: 025C	: 14 / 0 : 191,520:	:	
: 54S00	: GATE	: B-1/JB: : 4	: H DIP 14: : 77/79	: 33C	: RADR : GF	: FIELD	: 025C	: 150 / 0 : 2,052,000:	:	
: 54S00	: GATE	: B-1/JB: : 4	: H DIP 14: : 77/79	: 33C	: RADR : GF	: FIELD	: 025C	: 36 / 0 : 492,480:	:	
: 54S00	: GATE	: B-1/JB: : 4	: H DIP 14: : 77/79	: 33C	: RADR : GF	: FIELD	: 025C	: 21 / 0 : 287,280:	:	
: 54S00	: GATE	: B-1/JB: : 4	: H DIP 14: : 79/79	: 33C	: RADR : GF	: FIELD	: 025C	: 21 / 0 : 90,720:	:	
: 54S00	: GATE	: B-1/JB: : 4	: H DIP 14: : 79/79	: 33C	: RADR : GF	: FIELD	: 025C	: 14 / 0 : 60,480:	:	
: 54S00	: GATE	: B-1/JB: : 4	: H DIP 14: : 79/79	: 33C	: RADR : GF	: FIELD	: 025C	: 150 / 0 : 648,000:	:	
: 54S00	: GATE	: B-1/JB: : 4	: H DIP 14: : 79/79	: 33C	: RADR : GF	: FIELD	: 025C	: 36 / 0 : 155,520:	:	
: 54S00	: GATE	: B-1 : 4	: H DIP 14: : 75/78	: 74C	: COMP : AUF	: FIELD	:	: 231 / 0 : 263,340:	:	
: 54S04	: INVERTER	: B-1/JB: : 6	: H DIP 14: : 77/79	: 36C	: RADR : GF	: FIELD	: 025C	: 41 / 0 : 560,880:	:	
: 54S04	: INVERTER	: B-1/JB: : 6	: H DIP 14: : 77/79	: 36C	: RADR : GF	: FIELD	: 025C	: 163 / 0 : 2,229,840:	:	
: 54S04	: INVERTER	: B-1/JB: : 6	: H DIP 14: : 77/79	: 36C	: RADR : GF	: FIELD	: 025C	: 145 / 0 : 1,983,600:	:	
: 54S04	: INVERTER	: B-1/JB: : 6	: H DIP 14: : 77/79	: 36C	: RADR : GF	: FIELD	: 025C	: 75 / 0 : 1,026,000:	:	
: 54S04	: INVERTER	: B-1/JB: : 6	: H DIP 14: : 79/79	: 36C	: RADR : GF	: FIELD	: 025C	: 75 / 0 : 324,000:	:	
: 54S04	: INVERTER	: B-1/JB: : 6	: H DIP 14: : 79/79	: 36C	: RADR : GF	: FIELD	: 025C	: 41 / 0 : 177,120:	:	
: 54S04	: INVERTER	: B-1/JB: : 6	: H DIP 14: : 79/79	: 36C	: RADR : GF	: FIELD	: 025C	: 163 / 0 : 704,160:	:	
: 54S04	: INVERTER	: B-1/JB: : 6	: H DIP 14: : 79/79	: 36C	: RADR : GF	: FIELD	: 025C	: 145 / 0 : 626,400:	:	
: 54S10	: GATE	: B-1/JB: : 3	: H DIP 14: : 77/79	: 65C	: COMM : AI	: CHECK : TCVPC	: -054C 055C : 14CY 2 22HZ	: 12958 / 0 : 354,444:	:	
: 54S10	: GATE	: B-1/JB: : 3	: H DIP 14: : 77/79	: 65C	: COMM : AI	: CHECK : TCVPC	: -054C 055C : 14CY 2 22HZ	: 3824 / 0 : 104,240:	:	
: 54S10	: GATE	: B-1/JB: : 3	: H DIP 14: : 77/79	: 65C	: COMM : AI	: CHECK : TCVPC	: -054C 055C : 14CY 2 22HZ	: 7010 / 0 : 193,924:	:	
: 54S10	: GATE	: B-1/JB: : 3	: H DIP 14: : 76/77	: 60C	: COMM : AIF	: FIELD	:	: 30 / 0 : 20,454:	:	
: 54S10	: GATE	: B-1/JB: : 3	: H DIP 14: : 76/77	: 60C	: COMM : AIF	: FIELD	:	: 20 / 0 : 8,382:	:	
: 54S10	: GATE	: B-1/JB: : 3	: H DIP 14: : 76/77	: 60C	: COMM : AIF	: FIELD	:	: 28 / 0 : 14,112:	:	

DIGITAL DEVICE DATA

VARIOUS TTL, SCHOTTKY		MANUFACTURER OPERATIONAL TYPE			RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	FOUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	REF REPORT NO. /CTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
54S10	GATE	B-1/JB: 3	H DIP 14: 76/77	60C	COMM AIT	FIELD		38 / 0 38,662		
54S10	GATE	B-1/JB: 3	H DIP 14: 77/79	30C	RADR GF	FIELD	025C	3 / 0 41,040		
54S10	GATE	B-1/JB: 3	H DIP 14: 77/79	30C	RADR GF	FIELD	025C	76 / 0 57,600		
54S10	GATE	B-1/JB: 3	H DIP 14: 77/79	30C	RADR GF	FIELD	025C	5 / 0 68,400		
54S10	GATE	B-1/JB: 3	H DIP 14: 77/79	30C	RADR GF	FIELD	025C	3 / 0 41,040		
54S10	GATE	B-1/JB: 3	H DIP 14: 79/79	30C	RADR GF	FIELD	025C	3 / 0 12,960		
54S10	GATE	B-1/JB: 3	H DIP 14: 79/79	30C	RADR GF	FIELD	025C	3 / 0 12,960		
54S10	GATE	B-1/JB: 3	H DIP 14: 79/79	30C	RADR GF	FIELD	025C	70 / 0 302,400		
54S10	GATE	B-1/JB: 3	H DIP 14: 79/79	30C	RADR GF	FIELD	025C	5 / 0 21,600		
54S11	GATE	B-1/JB: 3	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	1 / 0 13,680		
54S11	GATE	B-1/JB: 3	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	24 / 0 328,320		
54S11	GATE	B-1/JB: 3	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	18 / 0 246,240		
54S11	GATE	B-1/JB: 3	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	1 / 0 4,320		
54S11	GATE	B-1/JB: 3	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	24 / 0 103,680		
54S11	GATE	B-1/JB: 3	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	18 / 0 77,760		
54S112	FLIP-FLOP JK	B-1/JB: 16	H DIP 16: 77/79	39C	RADR GF	FIELD	025C	11 / 0 150,480		
54S112	FLIP-FLOP JK	B-1/JB: 16	H DIP 16: 77/79	39C	RADR GF	FIELD	025C	7 / 0 95,760		
54S112	FLIP-FLOP JK	B-1/JB: 16	H DIP 16: 77/79	39C	RADR GF	FIELD	025C	15 / 0 205,200		
54S112	FLIP-FLOP JK	B-1/JB: 16	H DIP 16: 77/79	39C	RADR GF	FIELD	025C	11 / 0 150,480		
54S112	FLIP-FLOP JK	B-1/JB: 16	H DIP 16: 79/79	39C	RADR GF	FIELD	025C	11 / 0 47,520		
54S112	FLIP-FLOP JK	B-1/JB: 16	H DIP 16: 79/79	39C	RADR GF	FIELD	025C	11 / 0 47,520		
54S112	FLIP-FLOP JK	B-1/JB: 16	H DIP 16: 79/79	39C	RADR GF	FIELD	025C	15 / 0 64,800		
54S112	FLIP-FLOP JK	B-2 16	H DIP 16: 77/77		RADR AIU	REFDEM OPERATF		35 / 0 1,127		

DIGITAL DEVICE DATA

VARIOUS TTL, SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE			PART HOURS		
54S133	GATE	B-1/JB: 1	H DIP 16: 77/79	27C	RADR GF	FIELD	025C	1 / 0 13,680			
54S133	GATE	B-1/JB: 1	H DIP 16: 77/79	27C	RADR GF	FIELD	025C	17 / 0 232,560			
54S133	GATE	B-1/JB: 1	H DIP 16: 77/79	27C	RADR GF	FIELD	025C	43 / 0 588,240			
54S133	GATE	B-1/JB: 1	H DIP 16: 77/79	27C	RADR GF	FIELD	025C	4 / 0 54,720			
54S133	GATE	B-1/JB: 1	H DIP 16: 77/79	27C	RADR GF	FIELD	025C	15 / 0 205,200			
54S133	GATE	B-1/JB: 1	H DIP 16: 79/79	27C	RADR GF	FIELD	025C	15 / 0 64,800			
54S133	GATE	B-1/JB: 1	H DIP 16: 79/79	27C	RADR GF	FIELD	025C	1 / 1 4,320			
54S133	GATE	B-1/JB: 1	H DIP 16: 79/79	27C	RADR GF	FIELD	025C	17 / 0 73,440			
54S133	GATE	B-1/JB: 1	H DIP 16: 79/79	27C	RADR GF	FIELD	025C	43 / 0 185,760			
54S133	GATE	B-1/JB: 1	H DIP 16: 79/79	27C	RADR GF	FIELD	025C	4 / 0 17,280			
54S138	DECODER/DEMUTIPLEX	B-1/JB: 16	H DIP 16: 77/79	47C	RADR GF	FIELD	025C	12 / 0 164,160			
54S138	DECODER/DEMUTIPLEX	B-1/JB: 16	H DIP 16: 77/79	47C	RADR GF	FIELD	025C	73 / 0 998,640			
54S138	DECODER/DEMUTIPLEX	B-1/JB: 16	H DIP 16: 77/79	47C	RADR GF	FIELD	025C	8 / 0 109,440			
54S138	DECODER/DEMUTIPLEX	B-1/JB: 16	H DIP 16: 79/79	47C	RADR GF	FIELD	025C	8 / 0 34,560			
54S138	DECODER/DEMUTIPLEX	B-1/JB: 16	H DIP 16: 79/79	47C	RADR GF	FIELD	025C	12 / 0 51,840			
54S138	DECODER/DEMUTIPLEX	B-1/JB: 16	H DIP 16: 79/79	47C	RADR GF	FIELD	025C	73 / 0 315,360			
54S140	INTERFACE LINE DRIVER	B-1/JB: 2	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	2 / 0 27,360			
54S140	INTERFACE LINE DRIVER	B-1/JB: 2	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	2 / 0 8,640			
54S151	MULTIPLEXER	B-1/JB: 17	H DIP 16: 77/79	45C	RADR GF	FIELD	025C	1 / 0 13,680			
54S151	MULTIPLEXER	B-1/JB: 17	H DIP 16: 77/79	45C	RADR GF	FIELD	025C	16 / 0 218,880			
54S151	MULTIPLEXER	B-1/JB: 17	H DIP 16: 77/79	45C	RADR GF	FIELD	025C	3 / 0 41,040			
54S151	MULTIPLEXER	B-1/JB: 17	H DIP 16: 79/79	45C	RADR GF	FIELD	025C	3 / 0 12,960			
54S151	MULTIPLEXER	B-1/JB: 17	H DIP 16: 79/79	45C	RADR GF	FIELD	025C	1 / 0 4,320			

DIGITAL DEVICE DATA

VARIOUS
TTL, SCHOTTKYMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	NET REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
54S151	MULTIPLEXER	B-1/JB: 17	H DIP 16: 79/79	45C	RADR GF	FIELD	025C	16 / 0	60,120
54S153	MULTIPLEXER	B-1/JB: 16	H DIP 16: 77/79	45C	RADR GF	FIELD	025C	6 / 0	82,080
54S153	MULTIPLEXER	B-1/JB: 16	H DIP 16: 77/79	45C	RADR GF	FIELD	025C	43 / 0	588,240
54S153	MULTIPLEXER	B-1/JB: 16	H DIP 16: 77/79	45C	RADR GF	FIELD	025C	91 / 0	1,244,880
54S153	MULTIPLEXER	B-1/JB: 16	H DIP 16: 77/79	45C	RADR GF	FIELD	025C	26 / 0	355,680
54S153	MULTIPLEXER	B-1/JB: 16	H DIP 16: 79/79	45C	RADR GF	FIELD	025C	26 / 0	112,320
54S153	MULTIPLEXER	B-1/JB: 16	H DIP 16: 79/79	45C	RADR GF	FIELD	025C	6 / 0	25,920
54S153	MULTIPLEXER	B-1/JB: 16	H DIP 16: 79/79	45C	RADR GF	FIELD	025C	43 / 0	185,760
54S153	MULTIPLEXER	B-1/JB: 16	H DIP 16: 79/79	45C	RADR GF	FIELD	025C	91 / 0	393,120
54S157	MULTIPLEXER	B-1/JB: 15	H DIP 16: 77/79	48C	RADR GF	FIELD	025C	2 / 0	27,360
54S157	MULTIPLEXER	B-1/JB: 15	H DIP 16: 77/79	48C	RADR GF	FIELD	025C	35 / 0	478,800
54S157	MULTIPLEXER	B-1/JB: 15	H DIP 16: 77/79	48C	RADR GF	FIELD	025C	18 / 0	246,240
54S157	MULTIPLEXER	B-1/JB: 15	H DIP 16: 77/79	48C	RADR GF	FIELD	025C	24 / 0	328,320
54S157	MULTIPLEXER	B-1/JB: 15	H DIP 16: 79/79	48C	RADR GF	FIELD	025C	24 / 0	103,680
54S157	MULTIPLEXER	B-1/JB: 15	H DIP 16: 79/79	48C	RADR GF	FIELD	025C	2 / 0	8,640
54S157	MULTIPLEXER	B-1/JB: 15	H DIP 16: 79/79	48C	RADR GF	FIELD	025C	35 / 0	151,200
54S157	MULTIPLEXER	B-1/JB: 15	H DIP 16: 79/79	48C	RADR GF	FIELD	025C	18 / 0	77,760
54S158	MULTIPLEXER	B-1/JB: 15	H DIP 16: 77/79	43C	RADR GF	FIELD	025C	1 / 0	13,680
54S158	MULTIPLEXER	B-1/JB: 15	H DIP 16: 77/79	43C	RADR GF	FIELD	025C	7 / 0	95,760
54S158	MULTIPLEXER	B-1/JB: 15	H DIP 16: 77/79	43C	RADR GF	FIELD	025C	72 / 0	984,960
54S158	MULTIPLEXER	B-1/JB: 15	H DIP 16: 79/79	43C	RADR GF	FIELD	025C	1 / 0	4,320
54S158	MULTIPLEXER	B-1/JB: 15	H DIP 16: 79/79	43C	RADR GF	FIELD	025C	7 / 0	30,240
54S158	MULTIPLEXER	B-1/JB: 15	H DIP 16: 79/79	43C	RADR GF	FIELD	025C	72 / 0	311,040

DIGITAL DEVICE DATA

VARIOUS
TTL, SCHOTTKYMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MYEF REPORT NO.: /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
54S174	FLIP-FLOP D	B-1/JB: 36	H DIP 16: 77/79	66C	RADR GF	FIELD	025C	36 / 0 492,480:	
54S174	FLIP-FLOP D	B-1/JB: 36	H DIP 16: 77/79	66C	RADR GF	FIELD	025C	1265 / 0 17,305,200:	
54S174	FLIP-FLOP D	B-1/JB: 36	H DIP 16: 77/79	66C	RADR GF	FIELD	025C	157 / 0 2,147,760:	
54S174	FLIP-FLOP D	B-1/JB: 36	H DIP 16: 77/79	66C	RADR GF	FIELD	025C	7 / 0 95,760:	
54S174	FLIP-FLOP D	B-1/JB: 36	H DIP 16: 79/79	66C	RADR GF	FIELD	025C	7 / 0 30,240:	
54S174	FLIP-FLOP D	B-1/JB: 36	H DIP 16: 79/79	66C	RADR GF	FIELD	025C	36 / 0 155,520:	
54S174	FLIP-FLOP D	B-1/JB: 36	H DIP 16: 79/79	66C	RADR GF	FIELD	025C	1265 / 0 5,464,800:	
54S174	FLIP-FLOP D	B-1/JB: 36	H DIP 16: 79/79	66C	RADR GF	FIELD	025C	157 / 0 678,240:	
54S175	FLIP-FLOP D	B-1/JB: 24	H DIP 16: 77/79	52C	RADR GF	FIELD	025C	1 / 0 13,680:	
54S175	FLIP-FLOP D	B-1/JB: 24	H DIP 16: 77/79	52C	RADR GF	FIELD	025C	57 / 0 779,760:	
54S175	FLIP-FLOP D	B-1/JB: 24	H DIP 16: 77/79	52C	RADR GF	FIELD	025C	126 / 0 1,723,680:	
54S175	FLIP-FLOP D	B-1/JB: 24	H DIP 16: 77/79	52C	RADR GF	FIELD	025C	41 / 0 560,880:	
54S175	FLIP-FLOP D	B-1/JB: 24	H DIP 16: 79/79	52C	PADR GF	FIELD	025C	41 / 0 177,120:	
54S175	FLIP-FLOP D	B-1/JB: 24	H DIP 16: 79/79	52C	RADR GF	FIELD	025C	1 / 0 4,320:	
54S175	FLIP-FLOP D	B-1/JB: 24	H DIP 16: 79/79	52C	RADR GF	FIELD	025C	57 / 0 246,240:	
54S175	FLIP-FLOP D	B-1/JB: 24	H DIP 16: 79/79	52C	RADR GF	FIELD	025C	126 / 0 544,320:	
54S195	SHIFT REG	B-1/JB: 53	H DIP 16: 77/79	43C	RADR GF	FIELD	025C	3 / 0 41,040:	
54S195	SHIFT REG	B-1/JB: 53	H DIP 16: 79/79	43C	RADR GF	FIELD	025C	3 / 0 12,960:	
54S20	GATE	B-1/JB: 2	H DIP 14: 77/79	29C	RADR GF	FIELD	025C	1 / 0 13,680:	
54S20	GATE	B-1/JB: 2	H DIP 14: 77/79	29C	RADR GF	FIELD	025C	26 / 0 355,680:	
54S20	GATE	B-1/JB: 2	H DIP 14: 77/79	29C	RADR GF	FIELD	025C	10 / 0 136,800:	
54S20	GATE	B-1/JB: 2	H DIP 14: 77/79	29C	RADR GF	FIELD	025C	1 / 0 13,680:	
54S20	GATE	B-1/JB: 2	H DIP 14: 79/79	29C	RADR GF	FIELD	025C	1 / 0 4,320:	

DIGITAL DEVICE DATA

VARIOUS TTL ,SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PIKS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	TESTED/ #FAILED	DEFECT REPORT NO./ QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
54820	GATE	B-1/JB: 2	H DIP 14: 79/79	29C	RADR GF	FIELD	025C	1 / 0 4,320:		
54820	GATE	B-1/JB: 2	H DIP 14: 79/79	29C	RADR GF	FIELD	025C	26 / 0 112,320:		
54820	GATE	B-1/JB: 2	H DIP 14: 79/79	29C	RADR GF	FIELD	025C	10 / 0 43,200:		
54820	GATE	B-1 2	H DIP 14: 75/78	74C	COMP AUF	FIELD		99 / 0 112,860:		
54820	GATE	B-2 2	H DIP 14: 77/77		RADR AIU	RELDEN OPERATE		25 / 0 805:		
54830	GATE	B-1/JB: 1	H DIP 14: 77/79	27C	RADR CF	FIELD	025C	1 / 0 13,680:		
54830	GATE	B-1/JB: 1	H DIP 14: 79/79	27C	RADR GF	FIELD	025C	1 / 0 4,320:		
54840	BUFFER	B-1/JB: 2	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	30 / 0 410,400:		
54840	BUFFER	B-1/JB: 2	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	173 / 0 2,366,640:		
54840	BUFFER	B-1/JB: 2	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	343 / 0 4,692,240:		
54840	BUFFER	B-1/JB: 2	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	9 / 0 123,120:		
54840	BUFFER	B-1/JB: 2	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	136 / 0 1,860,480:		
54840	BUFFER	B-1/JB: 2	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	9 / 0 38,880:		
54840	BUFFER	B-1/JB: 2	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	136 / 0 587,520:		
54840	BUFFER	B-1/JB: 2	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	30 / 0 129,600:		
54840	BUFFER	B-1/JB: 2	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	173 / 0 747,360:		
54840	BUFFER	B-1/JB: 2	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	343 / 0 1,481,760:		
54874	FLIP-FLOP D	B-1/JB: 12	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	6479 / 1 177,222:	2150/ 1	
54874	FLIP-FLOP D	B-1/JB: 12	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	1912 / 0 52,120:		
54874	FLIP-FLOP D	B-1/JB: 12	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	3505 / 0 96,962:		
54874	FLIP-FLOP D	B-1/JB: 12	H DIP 14: 76/77	64C	COMM AIF	FIELD		15 / 0 10,227:		
54874	FLIP-FLOP D	B-1/JB: 12	H DIP 14: 76/77	64C	COMM AIF	FIELD		10 / 0 4,191:		
54874	FLIP-FLOP D	B-1/JB: 12	H DIP 14: 76/77	64C	COMM AIF	FIELD		14 / 0 7,056:		

DIGITAL DEVICE DATA

VARIOUS TTL ,SCHOTTKY		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER			
: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MFR REPORT NO. :QTY FAILED :
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:
: 54S74 :	: FLIP-FLOP : D :	: B-1/JB: : 12 :	: H DIP 14: : 76/77 :	: 64C :	: COMM AIT :	: FIELD :	:	: 19 / 0 : : 19,331:	:
: 54S74 :	: FLIP-FLOP : D :	: B-1/JB: : 12 :	: H DIP 14: : 77/79 :	: 35C :	: RADR GF :	: FIELD :	: 025C :	: 12 / 0 : : 164,160:	:
: 54S74 :	: FLIP-FLOP : D :	: B-1/JB: : 12 :	: H DIP 14: : 77/79 :	: 35C :	: RADR GF :	: FIELD :	: 025C :	: 59 / 0 : : 807,120:	:
: 54S74 :	: FLIP-FLOP : D :	: B-1/JB: : 12 :	: H DIP 14: : 77/79 :	: 35C :	: RADR GF :	: FIELD :	: 025C :	: 85 / 0 : : 1,162,800:	:
: 54S74 :	: FLIP-FLOP : D :	: B-1/JB: : 12 :	: H DIP 14: : 77/79 :	: 35C :	: RADR GF :	: FIELD :	: 025C :	: 181 / 0 : : 2,476,080:	:
: 54S74 :	: FLIP-FLOP : D :	: B-1/JB: : 12 :	: H DIP 14: : 79/79 :	: 35C :	: RADR GF :	: FIELD :	: 025C :	: 181 / 0 : : 781,920:	:
: 54S74 :	: FLIP-FLOP : D :	: B-1/JB: : 12 :	: H DIP 14: : 79/79 :	: 35C :	: RADR GF :	: FIELD :	: 025C :	: 12 / 0 : : 51,840:	:
: 54S74 :	: FLIP-FLOP : D :	: B-1/JB: : 12 :	: H DIP 14: : 79/79 :	: 35C :	: RADR GF :	: FIELD :	: 025C :	: 59 / 0 : : 254,880:	:
: 54S74 :	: FLIP-FLOP : D :	: B-1/JB: : 12 :	: H DIP 14: : 79/79 :	: 35C :	: RADR GF :	: FIELD :	: 025C :	: 85 / 0 : : 367,200:	:
: 74S00 :	: GATE : D :	: D : 4 :	: H DIP 14: : 77/79 :	: 35C :	: COMP GB :	: FIELD :	: 025C :	: 147 / 0 : : 2,827,398:	:
: 74S00 :	: GATE : D :	: D : 4 :	: H DIP 14: : 77/79 :	: 35C :	: COMP GB :	: FIELD :	: 025C :	: 294 / 0 : : 5,844,720:	:
: 74S00 :	: GATE : D-1 :	: D-1 : 4 :	: P DIP 14: : 77/79 :	: 35C :	: COMP GB :	: FIELD :	: 025C :	: 955 / 1 : : 18,368,470:	: 2244/ 1 :
: 74S00 :	: GATE : D-1 :	: D-1 : 4 :	: P DIP 14: : 77/79 :	: 35C :	: COMP GB :	: FIELD :	: 025C :	: 1910 / 1 : : 37,970,800:	: 2245/ 1 :
: 74S00 :	: GATE : D-1 :	: D-1 : 4 :	: P DIP 14: : 76/78 :	: 35C :	: COMP GBC :	: FIELD :	: 025C :	: 6 / 0 : : 62,400:	:
: 74S00 :	: GATE : D-1 :	: D-1 : 4 :	: P DIP 14: : 76/78 :	: 35C :	: COMP GBC :	: FIELD :	: 025C :	: 3 / 0 : : 31,104:	:
: 74S00 :	: GATE : D-1 :	: D-1 : 4 :	: P DIP 14: : 76/78 :	: 35C :	: COMP GBC :	: FIELD :	: 025C :	: 3 / 0 : : 31,104:	:
: 74S00 :	: GATE : D-1 :	: D-1 : 4 :	: P DIP 14: : 76/78 :	: 35C :	: COMP GBC :	: FIELD :	: 025C :	: 15 / 0 : : 83,160:	:
: 74S00 :	: GATE : D-1 :	: D-1 : 4 :	: P DIP 14: : 76/78 :	: 35C :	: COMP GBC :	: FIELD :	: 025C :	: 20 / 0 : : 201,600:	:
: 74S00 :	: GATE : D-1 :	: D-1 : 4 :	: P DIP 14: : 78/78 :	: 35C :	: COMP GBC :	: FIELD :	: 025C :	: 6 / 0 : : 17,280:	:
: 74S00 :	: GATE : D-1 :	: D-1 : 4 :	: P DIP 14: : 78/78 :	: 35C :	: COMP GBC :	: FIELD :	: 025C :	: 3 / 0 : : 8,640:	:
: 74S00 :	: GATE : D-1 :	: D-1 : 4 :	: P DIP 14: : 78/78 :	: 35C :	: COMP GBC :	: FIELD :	: 025C :	: 3 / 0 : : 8,640:	:
: 74S00 :	: GATE : D-1 :	: D-1 : 4 :	: P DIP 14: : 78/78 :	: 35C :	: COMP GBC :	: FIELD :	: 025C :	: 15 / 0 : : 43,200:	:
: 74S00 :	: GATE : D-1 :	: D-1 : 4 :	: P DIP 14: : 78/78 :	: 35C :	: COMP GBC :	: FIELD :	: 025C :	: 20 / 0 : : 57,600:	:

DIGITAL DEVICE DATA

VARIOUS
TTL, SCHOTTKYMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRFSS LEVEL	#TESTED/ #FAILED	FILE REPORT NO./ QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
74S00	GATE	D-1 4	P DIP 14 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	49943 / 14 64,925,900	
74S00	GATE	D-1 4	P DIP 14 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	99999 / 10 137,195,100	
						FIELD		5528 / 0	
74S00	GATE	NONE 4	N/R DIP 14 77/79	35C	COMP GB	FIELD	025C	1 / 0 19,234	
74S00	GATE	NONE 4	N/R DIP 14 77/79	35C	COMP GB	FIELD	025C	2 / 0 39,760	
74S00	GATE	X 4	P DIP 14 76/78	35C	COMP GBC	FIELD	025C	10 / 0 153,068	
74S00	GATE	X 4	P DIP 14 76/78	35C	COMP GBC	FIELD	025C	50 / 0 495,840	
74S00	GATE	X 4	P DIP 14 76/78	35C	COMP GBC	FIELD	025C	21 / 0 194,112	
74S00	GATE	X 4	P DIP 14 78/78	35C	COMP GBC	FIELD	025C	10 / 0 28,800	
74S00	GATE	X 4	P DIP 14 78/78	35C	COMP GBC	FIELD	025C	50 / 0 144,000	
74S00	GATE	X 4	P DIP 14 78/78	35C	COMP GBC	FIELD	025C	21 / 0 60,480	
74S02	GATE	D-1 4	P DIP 14 76/78	35C	COMP GBC	FIELD	025C	3 / 0 31,200	
74S02	GATE	D-1 4	P DIP 14 76/78	35C	COMP GBC	FIELD	025C	3 / 0 31,104	
74S02	GATE	D-1 4	P DIP 14 76/78	35C	COMP GBC	FIELD	025C	6 / 0 33,264	
74S02	GATE	D-1 4	P DIP 14 76/78	35C	COMP GBC	FIELD	025C	10 / 0 100,800	
74S02	GATE	D-1 4	P DIP 14 78/78	35C	COMP GBC	FIELD	025C	3 / 0 8,640	
74S02	GATE	D-1 4	P DIP 14 78/78	35C	COMP GBC	FIELD	025C	3 / 0 8,640	
74S02	GATE	D-1 4	P DIP 14 78/78	35C	COMP GBC	FIELD	025C	6 / 0 17,280	
74S02	GATE	D-1 4	P DIP 14 78/78	35C	COMP GBC	FIELD	025C	10 / 0 28,800	
74S02	GATE	X 4	P DIP 14 76/78	35C	COMP GBC	FIELD	025C	20 / 0 198,336	
74S02	GATE	X 4	P DIP 14 78/78	35C	COMP GBC	FIELD	025C	20 / 0 57,600	
74S03	GATE	D-1 4	P DIP 14 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	324 / 0 421,200	
74S03	GATE	D-1 4	P DIP 14 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	6359 / 0 8,266,700	

DIGITAL DEVICE DATA

VARIOUS TTL ,SCHOTTKY		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER			
: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MPEF REPORT NO. :/QTY FAILED :
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:
: 74S03 :	: GATE :	: X 4 :	: P DIP 14 76/78 :	: 35C :	: COMP GBC :	: FIELD :	: 025C :	: 10 / 0 99,168 :	:
: 74S03 :	: GATE :	: X 4 :	: P DIP 14 78/78 :	: 35C :	: COMP GBC :	: FIFLD :	: 025C :	: 10 / 0 28,800 :	:
: 74S04 :	: INVERTER :	: D-1 6 :	: P DIP 14 76/78 :	: 39C :	: COMP GBC :	: FIELD :	: 025C :	: 15 / 0 83,160 :	:
: 74S04 :	: INVERTER :	: D-1 6 :	: P DIP 14 76/78 :	: 39C :	: COMP GBC :	: FIELD :	: 025C :	: 40 / 0 403,200 :	:
: 74S04 :	: INVERTER :	: D-1 6 :	: P DIP 14 76/78 :	: 39C :	: COMP GBC :	: FIELD :	: 025C :	: 84 / 0 789,264 :	:
: 74S04 :	: INVERTER :	: D-1 6 :	: P DIP 14 78/78 :	: 39C :	: COMP GBC :	: FIELD :	: 025C :	: 15 / 0 43,200 :	:
: 74S04 :	: INVERTER :	: D-1 6 :	: P DIP 14 78/78 :	: 39C :	: COMP GBC :	: FIELD :	: 025C :	: 40 / 0 115,200 :	:
: 74S04 :	: INVERTER :	: D-1 6 :	: P DIP 14 78/78 :	: 39C :	: COMP GBC :	: FIELD :	: 025C :	: 84 / 0 241,920 :	:
: 74S04 :	: INVERTER :	: D-1 6 :	: P DIP 14 77/78 :	: 52C :	: DSPY GBC :	: FIELD :	: 040C 55ZPWR :	: 32476 / 6 42,218,800 :	:
: 74S04 :	: INVERTER :	: D-1 6 :	: P DIP 14 78/79 :	: 52C :	: DSPY GBC :	: FIELD :	: 040C 55ZPWR :	: 51361 / 11 66,769,300 :	:
: 74S04 :	: INVERTER :	: X 6 :	: P DIP 14 76/78 :	: 39C :	: COMP GBC :	: FIELD :	: 025C :	: 30 / 0 156,068 :	:
: 74S04 :	: INVERTER :	: X 6 :	: P DIP 14 76/78 :	: 39C :	: COMP GBC :	: FIELD :	: 025C :	: 17 / 0 191,376 :	:
: 74S04 :	: INVERTER :	: X 6 :	: P DIP 14 78/78 :	: 39C :	: COMP GBC :	: FIELD :	: 025C :	: 30 / 0 86,400 :	:
: 74S04 :	: INVERTER :	: X 6 :	: P DIP 14 78/78 :	: 39C :	: COMP GBC :	: FIELD :	: 025C :	: 17 / 0 48,960 :	:
: 74S05 :	: INVERTER :	: D-1 6 :	: P DIP 14 77/78 :	: 50C :	: DSPY GBC :	: FIELD :	: 040C 55ZPWR :	: 280 / 0 364,000 :	:
: 74S05 :	: INVERTER :	: D-1 6 :	: P DIP 14 78/79 :	: 50C :	: DSPY GBC :	: FIELD :	: 040C 55ZPWR :	: 4266 / 1 5,545,800 :	:
: 74S05 :	: INVERTER :	: X 6 :	: P DIP 14 76/78 :	: 35C :	: COMP GBC :	: FIELD :	: 025C :	: 10 / 0 153,068 :	:
: 74S05 :	: INVERTER :	: X 6 :	: P DIP 14 78/78 :	: 35C :	: COMP GBC :	: FIELD :	: 025C :	: 10 / 0 28,800 :	:
: 74S05 :	: INVERTER :	: X 6 :	: P DIP 14 78/78 :	: 35C :	: COMP GBC :	: FIELD :	: 025C :	: 21 / 0 60,480 :	:
: 74S08 :	: GATE :	: D-1 4 :	: P DIP 14 76/78 :	: 39C :	: COMP GBC :	: FIELD :	: 025C :	: 9 / 0 92,160 :	:
: 74S08 :	: GATE :	: D-1 4 :	: P DIP 14 76/78 :	: 39C :	: COMP GBC :	: FIELD :	: 025C :	: 9 / 0 93,600 :	:
: 74S08 :	: GATE :	: D-1 4 :	: P DIP 14 76/78 :	: 39C :	: COMP GBC :	: FIELD :	: 025C :	: 9 / 0 49,896 :	:
: 74S08 :	: GATE :	: D-1 4 :	: P DIP 14 76/78 :	: 39C :	: COMP GBC :	: FIELD :	: 025C :	: 30 / 0 302,400 :	:

DIGITAL DEVICE DATA

VARIOUS
TTL, SCHOTTKYMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MEF REPORT NO. / QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
74S08	GATE	D-1 4	P DIP 14: 78/78	39C	COMP GBC	FIELD	025C	9 / 0 25,920	
74S08	GATE	D-1 4	P DIP 14: 78/78	39C	COMP GBC	FIELD	025C	9 / 0 25,920	
74S08	GATE	D-1 4	P DIP 14: 78/78	39C	COMP GBC	FIELD	025C	9 / 0 25,920	
74S08	GATE	D-1 4	P DIP 14: 78/78	39C	COMP GBC	FIELD	025C	30 / 0 86,400	
74S10	GATE	D-1 3	P DIP 14: 76/78	31C	COMP GBC	FIELD	025C	12 / 0 124,800	
74S10	GATE	D-1 3	P DIP 14: 76/78	31C	COMP GBC	FIELD	025C	3 / 0 16,632	
74S10	GATE	D-1 3	P DIP 14: 78/78	31C	COMP GBC	FIELD	025C	12 / 0 34,560	
74S10	GATE	D-1 3	P DIP 14: 78/78	31C	COMP GBC	FIELD	025C	3 / 0 8,640	
74S11	GATE	D-1 3	P DIP 14: 76/78	35C	COMP GBC	FIELD	025C	20 / 0 201,600	
74S11	GATE	D-1 3	P DIP 14: 78/78	35C	COMP GBC	FIELD	025C	20 / 0 57,600	
74S11	GATE	D-1 3	P DIP 14: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	12310 / 2 16,003,000	
74S11	GATE	D-1 3	P DIP 14: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	29441 / 0 38,273,300	
74S11	GATE	X 3	P DIP 14: 76/78	35C	COMP GBC	FIELD	025C	20 / 0 306,136	
74S11	GATE	X 3	P DIP 14: 78/78	35C	COMP GBC	FIELD	025C	20 / 0 57,600	
74S112	FLIP-FLOP JK	D-1 16	P DIP 16: 77/79	39C	COMP GB	FIELD	025C	545 / 0 10,482,530	
74S112	FLIP-FLOP JK	D-1 16	P DIP 16: 77/79	39C	COMP GB	FIELD	025C	1092 / 0 21,708,960	
74S112	FLIP-FLOP JK	D-1 16	P DIP 16: 76/78	39C	COMP GBC	FIELD	025C	3 / 0 31,200	
74S112	FLIP-FLOP JK	D-1 16	P DIP 16: 76/78	39C	COMP GBC	FIELD	025C	10 / 0 100,800	
74S112	FLIP-FLOP JK	D-1 16	P DIP 16: 78/78	39C	COMP GBC	FIELD	025C	3 / 0 8,640	
74S112	FLIP-FLOP JK	D-1 16	P DIP 16: 78/78	39C	COMP GBC	FIELD	025C	10 / 0 28,800	
74S112	FLIP-FLOP JK	D-1 16	P DIP 16: 77/78	54C	DSPY GBC	FIELD	040C 55XPWR	62365 / 33 81,074,500	
74S112	FLIP-FLOP JK	D-1 16	P DIP 16: 78/79	54C	DSPY GBC	FIELD	040C 55XPWR	99999 / 41 133,173,300	
						FIELD		2442 / 0	

DIGITAL DEVICE DATA

VARIOUS TTL SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PIHS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE			PART HOURS	
74S112	FLIP-FLOP JK	NONE 16	N/R DIP 16: 77/79	39C	COMP GB	FIELD	025C	5 / 0	96,170:	
74S113	FLIP-FLOP JK	D-1 16	P DIP 14: 77/78	54C	DSFY GBC	FIELD	040C 55%PWR	1023 / 0	1,329,900:	
74S113	FLIP-FLOP JK	D-1 16	P DIP 14: 78/79	54C	DSFY GBC	FIELD	040C 55%PWR	1539 / 0	2,000,700:	
74S133	GATE	X 1	P DIP 16: 76/78	27C	COMP GBC	FIELD	025C	10 / 0	99,168:	
74S133	GATE	X 1	P DIP 16: 78/78	27C	COMP GBC	FIELD	025C	10 / 2	28,800:	
74S135	GATE	D-1 8	P DIP 16: 76/78	58C	COMP GBC	FIELD	025C	6 / 0	33,264:	
74S135	GATE	D-1 8	P DIP 16: 78/78	58C	COMP GBC	FIELD	025C	6 / 0	17,280:	
74S138	DECODER/DEMUTLPLX	D-1 16	P DIP 16: 76/78	50C	COMP GBC	FIELD	025C	3 / 0	30,720:	
74S138	DECODER/DEMUTLPLX	D-1 16	P DIP 16: 76/78	50C	COMP GBC	FIELD	025C	9 / 0	93,600:	
74S138	DECODER/DEMUTLPLX	D-1 16	P DIP 16: 76/78	50C	COMP GBC	FIELD	025C	6 / 0	62,208:	
74S138	DECODER/DEMUTLPLX	D-1 16	P DIP 16: 76/78	50C	COMP GBC	FIELD	025C	3 / 0	16,632:	
74S138	DECODER/DEMUTLPLX	D-1 16	P DIP 16: 76/78	50C	COMP GBC	FIELD	025C	30 / 0	302,400:	
74S138	DECODER/DEMUTLPLX	D-1 16	P DIP 16: 76/78	50C	COMP GBC	FIELD	025C	6 / 0	56,376:	
74S138	DECODER/DEMUTLPLX	D-1 16	P DIP 16: 78/78	50C	COMP GBC	FIELD	025C	3 / 0	8,640:	
74S138	DECODER/DEMUTLPLX	D-1 16	P DIP 16: 78/78	50C	COMP GBC	FIELD	025C	9 / 0	25,920:	
74S138	DECODER/DEMUTLPLX	D-1 16	P DIP 16: 78/78	50C	COMP GBC	FIELD	025C	6 / 0	17,280:	
74S138	DECODER/DEMUTLPLX	D-1 16	P DIP 16: 78/78	50C	COMP GBC	FIELD	025C	3 / 0	8,640:	
74S138	DECODER/DEMUTLPLX	D-1 16	P DIP 16: 78/78	50C	COMP GBC	FIELD	025C	30 / 0	86,400:	
74S138	DECODER/DEMUTLPLX	D-1 16	P DIP 16: 78/78	50C	COMP GBC	FIELD	025C	6 / 0	17,280:	
74S138	DECODER/DEMUTLPLX	X 16	P DIP 16: 76/78	50C	COMP GBC	FIELD	025C	10 / 0	99,168:	
74S138	DECODER/DEMUTLPLX	X 16	P DIP 16: 78/78	50C	COMP GBC	FIELD	025C	10 / 0	28,800:	
74S139	DECODER/DEMUTLPLX	D-1 18	P DIP 16: 76/78	55C	COMP GBC	FIELD	025C	9 / 0	92,160:	
74S139	DECODER/DEMUTLPLX	D-1 18	P DIP 16: 76/78	55C	COMP GBC	FIELD	025C	6 / 0	62,400:	

DIGITAL DEVICE DATA

VARIOUS TTL ,SCHOTTKY		MANUFACTURER OPERATIONAL TYPE		RELIABILITY ANALYSIS CENTER						
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TFSTED/ #FAILED	WEEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
74S139	DECODER/DEMUTIPLEX	D-1 18	P DIP 16: 76/78	55C	COMP GBC	FIELD	025C	6 / 0 62,208		
74S139	DECODER/DEMUTIPLEX	D-1 18	P DIP 16: 76/78	55C	COMP GBC	FIELD	025C	6 / 0 33,264		
74S139	DECODER/DEMUTIPLEX	D-1 18	P DIP 16: 76/78	55C	COMP GBC	FIELD	025C	10 / 0 100,800		
74S139	DECODER/DEMUTIPLEX	D-1 18	P DIP 16: 78/78	55C	COMP GBC	FIELD	025C	9 / 0 25,920		
74S139	DECODER/DEMUTIPLEX	D-1 18	P DIP 16: 78/78	55C	COMP GBC	FIELD	025C	6 / 0 17,280		
74S139	DECODER/DEMUTIPLEX	D-1 18	P DIP 16: 78/78	55C	COMP GBC	FIELD	025C	6 / 0 17,280		
74S139	DECODER/DEMUTIPLEX	D-1 18	P DIP 16: 78/78	55C	COMP GBC	FIELD	025C	6 / 0 17,280		
74S139	DECODER/DEMUTIPLEX	D-1 18	P DIP 16: 78/78	55C	COMP GBC	FIELD	025C	10 / 0 28,800		
74S139	DECODER/DEMUTIPLEX	X 18	P DIP 16: 76/78	55C	COMP GBC	FIELD	025C	10 / 0 153,000		
74S139	DECODER/DEMUTIPLEX	X 18	P DIP 16: 78/78	55C	COMP GBC	FIELD	025C	10 / 0 28,800		
74S140	INTERFACE LINE DRIVER	D-1 2	P DIP 14: 76/78	35C	COMP GBC	FIELD	025C	10 / 0 100,800		
74S140	INTERFACE LINE DRIVER	D-1 2	P DIP 14: 78/78	35C	COMP GBC	FIELD	025C	10 / 0 28,800		
74S140	INTERFACE LINE DRIVER	X 2	P DIP 14: 76/78	35C	COMP GBC	FIELD	025C	20 / 0 306,136		
74S140	INTERFACE LINE DRIVER	X 2	P DIP 14: 76/78	35C	COMP GBC	FIELD	025C	10 / 0 99,168		
74S140	INTERFACE LINE DRIVER	X 2	P DIP 14: 76/78	35C	COMP GBC	FIELD	025C	21 / 0 194,112		
74S140	INTERFACE LINE DRIVER	X 2	P DIP 14: 78/78	35C	COMP GBC	FIELD	025C	20 / 0 57,600		
74S140	INTERFACE LINE DRIVER	X 2	P DIP 14: 78/78	35C	COMP GBC	FIELD	025C	10 / 0 28,800		
74S140	INTERFACE LINE DRIVER	X 2	P DIP 14: 78/78	35C	COMP GBC	FIELD	025C	21 / 0 60,480		
74S15	GATE	D-1 3	P DIP 14: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	4963 / 3 6,451,900		
74S15	GATE	D-1 3	P DIP 14: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	6906 / 1 9,977,800		
74S151	MULTIPLEXER	D-1 17	P DIP 16: 76/78	48C	COMP GEC	FIELD	025C	18 / 0 187,200		
74S151	MULTIPLEXER	D-1 17	P DIP 16: 78/78	48C	COMP GBC	FIELD	025C	18 / 0 51,840		
74S153	MULTIPLEXER	D-1 16	P DIP 16: 76/78	48C	COMP GBC	FIELD	025C	48 / 0 499,200		

DIGITAL DEVICE DATA

VARIOUS
TTL SCHOTTKY

MANUFACTURED
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
74S153	MULTIPLEXER	D-1	P DIP 16	48C	COMP	FIELD	025C	3 / 0	31,104
		16	76/78		GBC				
74S153	MULTIPLEXER	D-1	P DIP 16	48C	COMP	FIELD	025C	3 / 0	16,632
		16	76/78		GBC				
74S153	MULTIPLEXER	D-1	P DIP 16	48C	COMP	FIELD	025C	10 / 0	100,800
		16	76/78		GBC				
74S153	MULTIPLEXER	D-1	P DIP 16	48C	COMP	FIELD	025C	48 / 0	138,240
		16	78/78		GBC				
74S153	MULTIPLEXER	D-1	P DIP 16	48C	COMP	FIELD	025C	3 / 0	8,640
		16	78/78		GBC				
74S153	MULTIPLEXER	D-1	P DIP 16	48C	COMP	FIELD	025C	3 / 0	8,640
		16	78/78		GBC				
74S153	MULTIPLEXER	D-1	P DIP 16	48C	COMP	FIELD	025C	10 / 0	28,800
		16	78/78		GBC				
74S153	MULTIPLEXER	X	P DIP 16	48C	COMP	FIELD	025C	30 / 0	297,504
		16	76/78		GBC				
74S153	MULTIPLEXER	Y	P DIP 16	48C	COMP	FIELD	025C	30 / 0	86,400
		16	78/78		GBC				
74S157	MULTIPLEXER	D-1	P DIP 16	50C	COMP	FIELD	025C	15 / 0	156,000
		15	76/78		GBC				
74S157	MULTIPLEXER	D-1	P DIP 16	50C	COMP	FIELD	025C	12 / 0	124,416
		15	76/78		GBC				
74S157	MULTIPLEXER	D-1	P DIP 16	50C	COMP	FIELD	025C	10 / 0	100,800
		15	76/78		GBC				
74S157	MULTIPLEXER	D-1	P DIP 16	50C	COMP	FIELD	025C	15 / 0	43,200
		15	78/78		GBC				
74S157	MULTIPLEXER	D-1	P DIP 16	50C	COMP	FIELD	025C	12 / 0	34,560
		15	78/78		GBC				
74S157	MULTIPLEXER	D-1	P DIP 16	50C	COMP	FIELD	025C	10 / 0	28,800
		15	78/78		GBC				
74S158	MULTIPLEXER	D-1	P DIP 16	45C	COMP	FIELD	025C	12 / 0	124,416
		15	76/78		GBC				
74S158	MULTIPLEXER	D-1	P DIP 16	45C	COMP	FIELD	025C	10 / 1	100,800
		15	76/78		GBC				
74S158	MULTIPLEXER	D-1	P DIP 16	45C	COMP	FIELD	025C	12 / 0	34,560
		15	78/78		GBC				
74S153	MULTIPLEXER	D-1	P DIP 16	45C	COMP	FIELD	025C	10 / 0	28,800
		15	78/78		GBC				
74S174	FLIP-FLOP	D-1	P DIP 16	70C	COMP	FIELD	025C	12 / 1	122,880
	D	36	76/78		GBC				
74S174	FLIP-FLOP	D-1	P DIP 16	70C	COMP	FIELD	025C	6 / 0	62,400
	D	36	76/78		GBC				
74S174	FLIP-FLOP	D-1	P DIP 16	70C	COMP	FIELD	025C	70 / 1	705,600
	D	36	76/78		GBC				
74S174	FLIP-FLOP	D-1	P DIP 16	70C	COMP	FIELD	025C	12 / 0	34,560
	D	36	78/78		GBC				

DIGITAL DEVICE DATA

VARIOUS
TTL, SCHOTTKYMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MEET REPORT NO./ QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
74S174	FLIP-FLOP D	D-1 36	P DIP 16: 78/78	70C	COMP GBC	FIELD	025C	6 / 0 17,280	
74S174	FLIP-FLOP D	D-1 36	P DIP 16: 78/78	70C	COMP GBC	FIELD	025C	70 / 0 201,600	
74S174	FLIP-FLOP D	X 36	P DIP 16: 76/78	70C	COMP GBC	FIELD	025C	10 / 0 153,068	
74S174	FLIP-FLOP D	X 36	P DIP 16: 78/78	70C	COMP GBC	FIELD	025C	10 / 0 28,800	
74S175	FLIP-FLOP D	D-1 24	P DIP 16: 76/78	55C	COMP GBC	FIELD	025C	30 / 0 302,400	
74S175	FLIP-FLOP D	D-1 24	P DIP 16: 78/78	55C	COMP GBC	FIELD	025C	30 / 0 86,400	
74S175	FLIP-FLOP D	D-1 24	P DIP 16: 76/78	55C	COMP GBC	FIELD	025C	3 / 0 31,104	
74S175	FLIP-FLOP D	D-1 24	P DIP 16: 78/78	55C	COMP GBC	FIELD	025C	3 / 0 8,640	
74S175N	FLIP-FLOP D	D-1 24	P DIP 16: 77/78	55C	DSPY GBC	FIELD	040C 55XPWR	973 / 0 1,264,900	
74S175N	FLIP-FLOP D	D-1 24	P DIP 16: 78/79	55C	DSPY GBC	FIELD	040C 55XPWR	9994 / 0 12,992,200	
74S182	GENERATOR	D-1 19	P DIP 16: 76/78	51C	COMP GBC	FIELD	025C	3 / 0 31,200	
74S182	GENERATOR	D-1 19	P DIP 16: 78/78	51C	COMP GBC	FIELD	025C	3 / 0 8,640	
74S194	SHIFT REG	D-1 47	P DIP 16: 77/78	83C	DSPY GBC	FIELD	040C 55XPWR	2199 / 0 2,858,700	
74S194	SHIFT REG	D-1 47	P DIP 16: 78/79	83C	DSPY GBC	FIELD	040C 55XPWR	2974 / 1 3,866,200	
74S20	GATE	D-1 2	P DIP 14: 77/79	30C	COMP GB	FIELD	025C	56 / 0 1,077,104	
74S20	GATE	D-1 2	P DIP 14: 77/79	30C	COMP GB	FIELD	025C	114 / 0 2,266,320	
74S20	GATE	D-1 2	P DIP 14: 76/78	30C	COMP GBC	FIELD	025C	3 / 0 30,720	
74S20	GATE	D-1 2	P DIP 14: 78/78	30C	COMP GBC	FIELD	025C	3 / 0 8,640	
74S20	GATE	D-1 2	P DIP 14: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	6140 / 0 7,982,000	
74S20	GATE	D-1 2	P DIP 14: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	8334 / 1 10,834,200	
74S20	GATE	X 2	P DIP 14: 76/78	45C	COMP GBC	FIELD	025C	10 / 0 99,168	
74S20	GATE	X 2	P DIP 14: 78/78	45C	COMP GBC	FIELD	025C	10 / 0 28,800	
74S251	MULTIPLEXER	D-1 17	P DIP 16: 76/78	53C	COMP GBC	FIELD	025C	96 / 1 902,016	

DIGITAL DEVICE DATA

VARIOUS
TTL SCHOTTKYMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO./QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
74S251	MULTIPLEXER	D-1 17	P DIP 16: 78/78	53C	COMP GBC	FIELD	025C	96 / 0 276,480	
74S257	MULTIPLEXER	D-1 15	P DIP 16: 76/78	57C	COMP GBC	FIELD	025C	6 / 0 61,440	
74S257	MULTIPLEXER	D-1 15	P DIP 16: 76/78	57C	COMP GBC	FIELD	025C	12 / 0 124,800	
74S257	MULTIPLEXER	D-1 15	P DIP 16: 76/78	57C	COMP GBC	FIELD	025C	12 / 0 124,416	
74S257	MULTIPLEXER	D-1 15	P DIP 16: 76/78	57C	COMP GBC	FIELD	025C	9 / 0 49,896	
74S257	MULTIPLEXER	D-1 15	P DIP 16: 76/78	57C	COMP GBC	FIELD	025C	20 / 1 201,600	
74S257	MULTIPLEXER	D-1 15	P DIP 16: 77/78	52C	COMB GBC	FIELD	020C	30 / 0 337,890	
74S257	MULTIPLEXER	D-1 15	P DIP 16: 78/78	57C	COMP GBC	FIELD	025C	6 / 0 17,280	
74S257	MULTIPLEXER	D-1 15	P DIP 16: 78/78	57C	COMP GBC	FIELD	025C	12 / 0 34,560	
74S257	MULTIPLEXER	D-1 15	P DIP 16: 78/78	57C	COMP GBC	FIELD	025C	12 / 0 34,560	
74S257	MULTIPLEXER	D-1 15	P DIP 16: 78/78	57C	COMP GBC	FIELD	025C	9 / 0 25,920	
74S257	MULTIPLEXER	D-1 15	P DIP 16: 78/78	57C	COMP GBC	FIELD	025C	20 / 0 57,600	
74S257	MULTIPLEXER	X 15	P DIP 16: 76/78	57C	COMP GBC	FIELD	025C	70 / 1 1,071,476	
74S257	MULTIPLEXER	X 15	P DIP 16: 76/78	57C	COMP GBC	FIELD	025C	42 / 0 388,224	
74S257	MULTIPLEXER	X 15	P DIP 16: 78/78	57C	COMP GBC	FIELD	025C	70 / 0 201,600	
74S257	MULTIPLEXER	X 15	P DIP 16: 78/78	57C	COMP GBC	FIELD	025C	42 / 0 120,960	
74S258	MULTIPLEXER	D-1 15	P DIP 16: 76/78	44C	COMP GBC	FIELD	025C	3 / 0 31,200	
74S258	MULTIPLEXER	D-1 15	P DIP 16: 78/78	44C	COMP GBC	FIELD	025C	3 / 0 8,640	
74S260	GATE	D-1 2	P DIP 14: 76/78	36C	COMP GBC	FIELD	025C	3 / 0 31,200	
74S260	GATE	D-1 2	P DIP 14: 76/78	36C	COMP GBC	FIELD	025C	3 / 0 31,104	
74S260	GATE	D-1 2	P DIP 14: 76/78	36C	COMP GBC	FIELD	025C	3 / 0 16,632	
74S260	GATE	D-1 2	P DIP 14: 76/78	36C	COMP GBC	FIELD	025C	10 / 0 100,800	
74S260	GATE	D-1 2	P DIP 14: 78/78	36C	COMP GBC	FIELD	025C	3 / 0 8,640	

DIGITAL DEVICE DATA

VARIOUS
TTL, SCHOTTKYMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFFF REPORT NO.: /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
74S260	GATE	D-1 2	P DIP 14: 78/78	36C	COMP GBC	FIELD	025C	3 / 0 8,640:	
74S260	GATE	D-1 2	P DIP 14: 78/78	36C	COMP GBC	FIELD	025C	3 / 0 8,640:	
74S260	GATE	D-1 2	P DIP 14: 78/78	36C	COMP GBC	FIELD	025C	10 / 0 28,800:	
74S280	GENERATOR	D-1 46	P DIP 14: 76/78	62C	COMP GBC	FIELD	025C	6 / 0 62,400:	
74S280	GENERATOR	D-1 46	P DIP 14: 76/78	62C	COMP GBC	FIELD	025C	6 / 0 33,264:	
74S280	GENERATOR	D-1 46	P DIP 14: 76/78	62C	COMP GBC	FIELD	025C	60 / 0 604,800:	
74S280	GENERATOR	D-1 46	P DIP 14: 78/78	62C	COMP GBC	FIELD	025C	6 / 0 17,280:	
74S280	GENERATOR	D-1 46	P DIP 14: 78/78	62C	COMP GBC	FIELD	025C	6 / 0 17,280:	
74S280	GENERATOR	D-1 46	P DIP 14: 78/78	62C	COMP GBC	FIELD	025C	60 / 0 172,800:	
74S32	GATE	D-1 4	P DIP 14: 75/78	37C	COMP GBC	FIELD	025C	9 / 0 93,600:	
74S32	GATE	D-1 4	P DIP 14: 76/78	37C	COMP GBC	FIELD	025C	3 / 0 16,632:	
74S32	GATE	D-1 4	P DIP 14: 76/78	37C	COMP GBC	FIELD	025C	20 / 0 201,600:	
74S32	GATE	D-1 4	P DIP 14: 78/78	37C	COMP GBC	FIELD	025C	9 / 0 25,920:	
74S32	GATE	D-1 4	P DIP 14: 78/78	37C	COMP GBC	FIELD	025C	3 / 0 8,640:	
74S32	GATE	D-1 4	P DIP 14: 78/78	37C	COMP GBC	FIELD	025C	20 / 0 57,600:	
74S37	BUFFER	X 4	P DIP 14: 76/78	43C	COMP GBC	FIELD	025C	20 / 0 198,336:	
74S37	BUFFER	X 4	P DIP 14: 78/78	43C	COMP GBC	FIELD	025C	20 / 0 57,600:	
74S40	BUFFER	D-1 2	P DIP 14: 77/78	50C	DSPLY GBC	FIELD	040C 55XPWR	397 / 0 516,100:	
74S40	BUFFER	D-1 2	P DIP 14: 78/79	50C	DSPLY GBC	FIELD	040C 55XPWR	596 / 0 774,800:	
74S51	GATE	D-1 6	P DIP 14: 76/78	31C	COMP GBC	FIELD	025C	3 / 0 31,200:	
74S51	GATE	D-1 6	P DIP 14: 76/78	31C	COMP GBC	FIELD	025C	9 / 0 93,312:	
74S51	GATE	D-1 6	P DIP 14: 76/78	31C	COMP GBC	FIELD	025C	3 / 0 16,632:	
74S51	GATE	D-1 6	P DIP 14: 76/78	31C	COMP GBC	FIELD	025C	30 / 0 302,400:	

DIGITAL DEVICE DATA

VARIOUS TTL ,SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
74S51	GATE	D-1 6	P DIP 14 78/78	31C	COMP GBC	FIELD	025C	3 / 0 8,640		
74S51	GATE	D-1 6	P DIP 14 78/78	31C	COMP GBC	FIELD	025C	9 / 0 25,920		
74S51	GATE	D-1 6	P DIP 14 78/78	31C	COMP GBC	FIELD	025C	3 / 0 8,640		
74S51	GATE	D-1 6	P DIP 14 78/78	31C	COMP GBC	FIELD	025C	30 / 0 86,400		
74S64	GATE	D-1 5	P DIP 14 77/78	44C	DSPY GBC	FIELD	040C 55XPWR	66379 / 16 86,292,700		
74S64	GATE	D-1 5	P DIP 14 78/79	44C	DSPY GBC	FIELD	040C 55XPWR	99999 / 23 132,609,100		
						FIELD		2008 / 0		
74S74	FLIP-FLOP D	D-1 12	P DIP 14 76/78	42C	COMP GBC	FIELD	025C	3 / 0 31,200		
74S74	FLIP-FLOP D	D-1 12	P DIP 14 76/78	42C	COMP GBC	FIELD	025C	6 / 0 62,208		
74S74	FLIP-FLOP D	D-1 12	P DIP 14 76/78	42C	COMP GBC	FIELD	025C	48 / 0 266,112		
74S74	FLIP-FLOP D	D-1 12	P DIP 14 76/78	42C	COMP GBC	FIELD	025C	50 / 0 504,000		
74S74	FLIP-FLOP D	D-1 12	P DIP 14 78/78	42C	COMP GBC	FIELD	025C	33 / 0 95,040		
74S74	FLIP-FLOP D	D-1 12	P DIP 14 78/78	42C	COMP GBC	FIELD	025C	3 / 0 8,640		
74S74	FLIP-FLOP D	D-1 12	P DIP 14 78/78	42C	COMP GBC	FIELD	025C	6 / 0 17,280		
74S74	FLIP-FLOP D	D-1 12	P DIP 14 78/78	42C	COMP GBC	FIELD	025C	48 / 0 138,240		
74S74	FLIP-FLOP D	D-1 12	P DIP 14 78/78	42C	COMP GBC	FIELD	025C	50 / 0 144,000		
74S74	FLIP-FLOP D	D-1 12	P DIP 14 77/78	57C	DSPY GBC	FIELD	040C 55XPWR	73125 / 18 95,062,500		
74S74	FLIP-FLOP D	D-1 12	P DIP 14 78/79	57C	DSPY GBC	FIELD	040C 55XPWR	99999 / 32 164,635,900		
						FIELD		26644 / 0		
74S74	FLIP-FLOP D	X 12	P DIP 14 76/78	42C	COMP GBC	FIELD	025C	30 / 0 459,204		
74S74	FLIP-FLOP D	X 12	P DIP 14 76/78	42C	COMP GBC	FIELD	025C	17 / 0 191,376		
74S74	FLIP-FLOP D	X 12	P DIP 14 76/78	42C	COMP GBC	FIELD	025C	30 / 0 297,504		
74S74	FLIP-FLOP D	X 12	P DIP 14 78/78	42C	COMP GBC	FIELD	025C	30 / 0 86,400		

DIGITAL DEVICE DATA

VARIOUS TTL ,SCHOTTKY		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO.: /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPF		PART HOURS		
74874	FLIP-FLOP D	X 12	P DIP 14: 78/78	42C	COMP GBC	FIELD	025C	17 / 0 48,960		
74874	FLIP-FLOP D	X 12	P DIP 14: 78/78	42C	COMP GBC	FIELD	025C	30 / 0 86,400		
74886	GATE	D-1 4	P DIP 14: 77/78	68C	DSPY GBC	FIELD	040C 55XPWR:	5217 / 1 6,782,100		
74886	GATE	D-1 4	P DIP 14: 78/79	68C	DSPY GBC	FIELD	040C 55XPWR:	8883 / 1 11,547,900		
82862	GENERATOR	D-1 12	P DIP 14: 76/78	35C	COMP GBC	FIELD	025C	36 / 1 374,400		
82862	GENERATOR	D-1 12	P DIP 14: 76/78	35C	COMP GBC	FIELD	025C	6 / 0 62,208		
82862	GENERATOR	D-1 12	P DIP 14: 76/78	35C	COMP GBC	FIELD	025C	20 / 0 201,600		
82862	GENERATOR	D-1 12	P DIP 14: 78/78	35C	COMP GBC	FIELD	025C	36 / 0 103,680		
82862	GENERATOR	D-1 12	P DIP 14: 78/78	35C	COMP GBC	FIELD	025C	6 / 0 17,280		
82862	GENERATOR	D-1 12	P DIP 14: 78/78	35C	COMP GBC	FIELD	025C	20 / 0 57,600		
8228	CONTROL BUS DRIVER	D 73	H DIP 28: 77/78	65C	DSPY GBC	FIELD	040C 55XPWR:	46 / 0 59,800		
8228	CONTROL BUS DRIVER	D 73	H DIP 28: 78/79	65C	DSPY GBC	FIELD	040C 55XPWR:	1102 / 1 1,432,600		

DIGITAL DEVICE DATA

VARIOUS TTL, SUHL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	IMEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
	GATE	B-2/N 2	H DIP 76/77	14: 81C	RADP AU	RELDEN TCVPC	-054C 071C 6CY 2. 27HZ	1463 / 0 70,224		
G341	GATE	B-2 4	H FPK 75/78	14: 35C	COMM GT	FIELD	025C	54 / 0 125,514		
G370	INVERTER	B-2 6	H FPK 75/78	14: 35C	COMM GT	FIELD	025C	9 / 0 20,919		
100	FLIP-FLOP JK	B-2 11	H FPK 75/78	14: 35C	COMM GT	FIELD	025C	81 / 0 188,271		
101	GATE EXPANDABLE	B-2 4	H FPK 75/78	14: 35C	COMM GT	FIELD	025C	45 / 0 104,595		
101/573	FLIP-FLOP JK	B-2 18	H FPK 75/78	14: 35C	COMM GT	FIELD	025C	207 / 0 481,137		
140	GATE	B-2 4	H FPK 75/78	14: 35C	COMM GT	FIELD	025C	144 / 0 334,704		
141	GATE	B-2 4	H FPK 75/78	14: 35C	COMM GT	FIELD	025C	891 / 0 2,070,981		
191	GATE	B-2 3	H FPK 75/78	14: 35C	COMM GT	FIELD	025C	243 / 0 564,813		
210	FLIP-FLOP JK	B-2 14	H FPK 75/78	14: 35C	COMM GT	FIELD	025C	27 / 0 62,757		
2124	FLIP-FLOP JK	C-1 20	H FPK 75/78	14:	RADR AUF	FIELD		2112 / 2 2,406,960	2173/ 2	
2125	FLIP-FLOP JK	C-1 10	H FPK 75/78	14:	RADR AUF	FIELD		1485 / 0 1,692,900		
31	FLIP-FLOP RS	B-2 8	H FPK 75/78	14: 35C	COMM GT	FIELD	025C	72 / 0 167,352		
3100	GATE	B-1/JB 4	H DIP 77/79	14: 65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	12958 / 0 354,444		
3100	GATE	B-1/JB 4	H DIP 77/79	14: 65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	3824 / 0 104,240		
3100	GATE	B-1/JB 4	H DIP 77/79	14: 65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	7010 / 0 193,924		
3100	GATE	B-1/JB 4	H DIP 76/77	14: 35C	COMM AIF	FIELD		30 / 0 20,554		
3100	GATE	B-1/JB 4	H DIP 76/77	14: 35C	COMM AIF	FIELD		20 / 0 8,382		
3100	GATE	B-1/JB 4	H DIP 76/77	14: 35C	COMM AIF	FIELD		28 / 0 14,112		
3100	GATE	B-1/JB 4	H DIP 76/77	14: 35C	COMM AIT	FIELD		38 / 0 38,662		
3151	FLIP-FLOP JK	B-1/JB 8	H DIP 77/79	14: 65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	6479 / 0 177,222		
3151	FLIP-FLOP JK	B-1/JB 8	H DIP 76/77	14:	COMM AIF	FIELD		10 / 0 4,191		
3151	FLIP-FLOP JK	B-1/JB 8	H DIP 76/77	14:	COMM AIT	FIELD		19 / 0 19,331		

DIGITAL DEVICE DATA

VARIOUS TTL ,SUHL		MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO.: /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
3151	FLIP-FLOP JK	B-1 8	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	1912 / 0 52,120		
3151	FLIP-FLOP JK	B-1 8	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	3505 / 0 96,962		
3151	FLIP-FLOP JK	B-1 8	H DIP 14: 76/77		COMM AIF	FIELD		15 / 0 10,227		
3151	FLIP-FLOP JK	B-1 8	H DIP 14: 76/77		COMM AIF	FIELD		14 / 0 7,056		
3160	FLIP-FLOP D	B-1 12	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	12958 / 0 354,444		
3160	FLIP-FLOP D	B-1 12	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	3824 / 0 104,240		
3160	FLIP-FLOP D	B-1 12	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	7010 / 0 193,924		
3160	FLIP-FLOP D	B-1 12	H DIP 14: 76/77		COMM AIF	FIELD		30 / 0 20,454		
3160	FLIP-FLOP D	B-1 12	H DIP 14: 76/77		COMM AIF	FIELD		20 / 0 8,382		
3160	FLIP-FLOP D	B-1 12	H DIP 14: 76/77		COMM AIF	FIELD		28 / 0 14,112		
3160	FLIP-FLOP D	B-1 12	H DIP 14: 76/77		COMM AIT	FIELD		36 / 0 38,662		
371/579	INVERTER	B-2 6	H FPK 14: 75/78	35C	COMM GT	FIELD	025C	171 / 0 397,461		
380/2116	INVERTER	B-2 6	H FPK 14: 75/78	35C	COMM GT	FIELD	025C	9 / 0 20,919		
40	GATE	B-2 2	H FPK 14: 75/78	35C	COMM GT	FIELD	025C	9 / 0 20,919		
41	GATE	B-2 2	H FPK 14: 75/78	35C	COMM GT	FIELD	025C	90 / 0 209,190		
41	GATE	B-2 2	H FPK 14: 75/78	35C	COMM GT	FIELD	025C	9 / 0 20,919		
50	FLIP-FLOP JK	B-2 10	H FPK 14: 75/78	35C	COMM GT	FIELD	025C	54 / 0 125,514		
51	FLIP-FLOP JK	B-2 10	H FPK 14: 75/78	35C	COMM GT	FIELD	025C	234 / 0 543,894		
61	GATE	B-2 1	H FPK 14: 75/78	35C	COMM GT	FIELD	025C	90 / 0 209,190		
71	LATCH	B-2 24	H FPK 14: 75/78	35C	COMM GT	FIELD	025C	18 / 0 41,838		
80/526	GATE	B-2 2	H FPK 14: 75/78	35C	COMM GT	FIELD	025C	18 / 0 41,838		
81	GATE EXPANDABLE	B-2 2	H FPK 14: 75/78	35C	COMM GT	FIELD	025C	90 / 0 209,190		

DIGITAL DEVICE DATA

VARIOUS		:MANUFACTURER				RELIABILITY ANALYSIS CENTER					
TTL		:OPERATIONAL TYPE									
: PART	:	: DEVICE	: SCR.N.	: PACKAGE/	: JCT.*	: EQUIP.	: DATA	: STRESS	:	: #TESTED/	: MFEF REPORT NO.:
: NO.	:	: FUNCTION	: CLASS	: PINS	: TEMP.	: TYPE	: CLASS.	: LEVEL	:	: #FAILED	: /QTY FAILED
:	:	: CIRCUIT	: NO.	: TEST	:	: APPL.	: TEST	:	:	: PART	:
:	:	: FUNCTION	: GATES	: DATE	:	: ENV.	: TYPE	:	:	: HOURS	:
:	:	:	:	:	:	:	:	:	:	:	:
:	:	: SHIFT REG	: D	: H DIP 16:	:	: COMM	: FIELD	:	:	: 150 / 0 :	:
:	:	:	: 41	: 78/79	:	: AIF	:	:	:	: 46,332:	:
:	:	:	:	:	:	:	:	:	:	:	:

DIGITAL DEVICE DATA

ADVANCED MICRO DEVICES			MANUFACTURER			RELIABILITY ANALYSIS CENTER					
TTL			OPERATIONAL TYPE								
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO.:/QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
2505	MULTIPLIER	B-2 85	P DIP 24: 77/77		RADR AIU	RELDEN OPERATE		2600 / 0 83,720:			
2505	MULTIPLIER	D-1 85	P DIP 24: 77/78	72C	DSPY GBC	FIELD	040C 55XPWR:	1041 / 0 1,353,300:			
2505	MULTIPLIER	D-1 85	P DIP 24: 78/79	72C	DSPY GBC	FIELD	040C 55XPWR:	2511 / 0 3,264,300:			
2602	FLIP-FLOP MONOSTABLE	B-2/N 14	H DIP 16: 76/77	81C	RADR AU	RELDEN TCVPC	-054C 071C 6CY 2. 27HZ	9823 / 1 471,504:	2313/ 1		

FAIRCHILD SEMI			MANUFACTURER			RELIABILITY ANALYSIS CENTER					
TTL			OPERATIONAL TYPE								
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO.:/QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
9N04	INVERTER	D-1 6	P DIP 14: 77/78	47C	DSPY GBC	FIELD	040C 55XPWR:	17323 / 5 22,519,900:			
9N04	INVERTER	D-1 6	P DIP 14: 78/79	47C	DSPY GBC	FIELD	040C 55XPWR:	27777 / 7 36,110,100:			
9007	GATE	D 1	H DIP 14: 78/79	56C	COMM AIF	FIELD		150 / 0 46,332:			
9300	SHIFT REG	D-1 40	P DIP 16: 77/78	70C	DSPY GBC	FIELD	040C 55XPWR:	2853 / 0 3,708,900:			
9300	SHIFT REG	D-1 40	P DIP 16: 78/79	70C	DSPY GBC	FIELD	038C 55XPWR:	5160 / 0 6,708,000:			
9301	DECODER BCD/DECIMAL	B-1 18	H DIP 16: 78/78	40C	COMP GT	RELDEN	025C	27 / 0 9,491:			
9304	ADDER FULL	B-1 22	H DIP 16: 78/78	39C	COMP GT	RELDEN	025C	15 / 0 5,273:			
9304	ADDER FULL	D 22	H DIP 16: 77/78	54C	DSPY GBC	FIELD	040C 55XPWR:	4 / 0 5,200:			
9304	ADDER FULL	D 22	H DIP 16: 78/79	54C	DSPY GBC	FIELD	040C 55XPWR:	825 / 0 1,072,500:			
9305	COUNTER	D-1 44	P DIP 14: 77/78	63C	DSPY GBC	FIELD	040C 55XPWR:	32 / 0 41,600:			
9305	COUNTER	D-1 44	P DIP 14: 78/79	63C	DSPY GBC	FIELD	040C 55XPWR:	1336 / 0 1,736,800:			
9310	COUNTER DECADE	D-1 60	P DIP 16: 77/78	73C	DSPY GBC	FIELD	040C 55XPWR:	4718 / 1 6,133,400:			
9310	COUNTER DECADE	D-1 60	P DIP 16: 78/79	73C	DSPY GBC	FIELD	040C 55XPWR:	6720 / 2 8,736,000:			
9316	COUNTER BINARY	D-1 57	P DIP 16: 77/78	73C	DSPY GBC	FIELD	040C 55XPWR:	17140 / 0 22,282,000:			

DIGITAL DEVICE DATA

FAIRCHILD SEMI
TTLMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MTBF REPORT NO. / QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
9316	COUNTER BINARY	D-1 57	P DIP 16: 78/79	73C	DSPY GBC	FIELD	040C 55XPWR	16578 / 1 21,551,400	
9318	ENCODER	B-1 24	H DIP 16: 78/78	48C	COMP GT	RELDEN	025C	12 / 0 4,218	
9318	ENCODER	D-1 24	P DIP 16: 77/78	65C	DSPY GBC	FIELD	040C 55XPWR	2131 / 0 2,770,300	
9318	ENCODER	D-1 24	P DIP 16: 78/79	65C	DSPY GBC	FIELD	040C 55XPWR	1773 / 0 2,304,900	
9321	DECODER	B-2 18	H FPK 16: 77/77		RADR AIU	RELDEN OPERATE		480 / 0 15,456	
9321	DECODER	D-1 18	P DIP 16: 77/78	55C	DSPY GBC	FIELD	040C 55XPWR	848 / 0 1,102,400	
9321	DECODER	D-1 18	P DIP 16: 78/79	55C	DSPY GBC	FIELD	040C 55XPWR	3151 / 0 4,096,300	
9322	MULTIPLEXER	D-1 19	P DIP 16: 77/78	55C	DSPY GBC	FIELD	040C 55XPWR	23697 / 3 30,806,100	
9322	MULTIPLEXER	D-1 19	P DIP 16: 78/79	55C	DSPY GBC	FIELD	040C 55XPWR	36015 / 3 46,819,500	
9324	COMPARATOR	B-1 27	H DIP 16: 78/78	43C	COMP GT	RELDEN	025C	12 / 0 4,218	
9324	COMPARATOR	D-1 32	P DIP 16: 77/78	60C	DSPY GBC	FIELD	040C 55XPWR	7840 / 1 10,192,000	
9324	COMPARATOR	D-1 32	P DIP 16: 78/79	60C	DSPY GBC	FIELD	040C 55XPWR	14493 / 2 18,840,900	
9334	LATCH ADDRESSABLE	D-1 59	P DIP 16: 77/78	74C	DSPY GBC	FIELD	040C 55XPWR	2986 / 1 3,881,800	
9334	LATCH ADDRESSABLE	D-1 59	P DIP 16: 78/79	74C	DSPY GBC	FIELD	040C 55XPWR	6834 / 2 8,884,200	
9366	COUNTER BINARY	B-1 54	H DIP 16: 78/78	54C	COMP GT	RELDEN	025C	12 / 0 4,218	
9600	FLIP-FLOP MONOSTABLE	D 11	H DIP 14: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	1232 / 4 1,601,600	
9600	FLIP-FLOP MONOSTABLE	D 11	H DIP 14: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	1208 / 2 1,570,400	
9601	FLIP-FLOP MONOSTABLE	B-2/N 8	H DIP 14: 76/77	87C	RADR AU	RELDEN TCVPC	-054C 071C 6CY 2. 27HZ	627 / 0 30,096	
9602	FLIP-FLOP MONOSTABLE	D-1 14	P DIP 16: 77/77	50C	INTR GBC	CHECK OPERATE	025C	2 / 0 880	

DIGITAL DEVICE DATA

HARRIS SEMI
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RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
165	ENCODER	C-2	H DIP 24	135C	NR	LIFE	125C	75 / 1	2317/ 1
		N/R	76/79		N/R	OP DYN		90,000	

MOTOROLA SEMI
TTLMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
4015	FLIP-FLOP D	D-1	P DIP 16	60C	DSPY	FIELD	040C 55XPWR	32 / 0	41,600
		24	77/78		GBC				
4024	FLIP-FLOP	D-1	P DIP 14	57C	DSPY	FIELD	040C 55XPWR	10625 / 4	13,812,500
		N/R	77/78		GBC				
4024	FLIP-FLOP	D-1	P DIP 14	57C	DSPY	FIELD	040C 55XPWR	16649 / 3	21,643,700
		N/R	78/79		GBC				
4306	DECODER	B-1	H FPK 14	83C	COMP	FIELD		750 / 0	865,260
		15	75/78		AUF				
54122	FLIP-FLOP MONOSTABLE	J-B	H DIP 14		RADR	RELDEN		30 / 0	966
		10	77/77		AIU	OPERATE			
54193	COUNTER BINARY	J-B	H DIP 16		RADR	RELDEN		205 / 0	6,603
		48	77/77		AIU	OPERATE			
576	GATE	B-2/N	H DIP 14	78C	RADR	RELDEN	-054C 071C	1045 / 0	50,160
		2	76/77		AU	TCVPC	6CY 2. 27HZ		
6075	MULTIPLEXER	B-1	H FPK 0		COMP	FIELD		1846 / 0	2,106,720
		N/R	75/78		AUF				
6076	MULTIPLEXER	B-1	H FPK 0		COMP	FIELD		1452 / 0	1,655,280
		N/R	75/78		AUF				
6076	MULTIPLEXER	C-1	H FPK 0		RADR	FIELD		99 / 0	112,860
		N/R	75/78		AUF				
7242	GATE	D-1	P DIP 14	58C	DSPY	FIELD	040C 55XPWR	1801 / 0	2,341,300
		4	77/78		GBC				
7242	GATE	D-1	P DIP 14	58C	DSPY	FIELD	040C 55XPWR	1889 / 0	2,455,700
		4	78/79		GBC				
7479	FLIP-FLOP D	D-1	P DIP 14	49C	DSPY	FIELD	040C 55XPWR	162 / 0	210,600
		12	77/78		GBC				
7479	FLIP-FLOP D	D-1	P DIP 14	49C	DSPY	FIELD	040C 55XPWR	291 / 0	378,300
		12	78/79		GBC				
9314	LATCH	J-B	H DIP 16		RADR	RELDEN		220 / 0	7,086
		26	77/77		AIU	OPERATE			

DIGITAL DEVICE DATA

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RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. :/QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
7214	MULTIPLEXER	B-1	H DIP 16	40C	COMP GT	RELDPM	025C	12 / 0	4,218
7214	MULTIPLEXER	B-2	H DIP 16		RADR AIU	RELDPM OPERATE		1060 / 0	34,132
74196	COUNTER DECADE	D-1	P DIP 14	61C	DSPY GBC	FIELD	040C 55XPWR	1976 / 2	2,568,800
74196	COUNTER DECADE	D-1	P DIP 14	61C	DSPY GBC	FIELD	040C 55XPWR	1773 / 2	2,304,900
7551	FLIP-FLOP D	B-1	H DIP 16	48C	COMP GT	RELDPM	025C	63 / 0	22,145
7551	FLIP-FLOP D	B-2	H DIP 16		RADR AIU	RELDPM OPERATE		300 / 0	9,660
7563	COUNTER BINARY	B-2	H DIP 16		RADR AIU	RELDPM OPERATE		665 / 0	21,413
8094	BUFFER	D-1	P DIP 14	59C	DSPY GBC	FIELD	040C 55XPWR	1741 / 0	2,263,300
8094	BUFFER	D-1	P DIP 14	59C	DSPY GBC	FIELD	040C 55XPWR	2471 / 1	3,212,300
8095	BUFFER	D-1	P DIP 16	58C	INTR GBC	CHECK OPERATE	025C	4 / 0	1,160
8095	BUFFER	D-1	P DIP 16	73C	DSPY GBC	FIELD	040C 55XPWR	1117 / 1	1,452,100
8095	BUFFER	D-1	P DIP 16	73C	DSPY GBC	FIELD	040C 55XPWR	5374 / 3	6,986,200
8123	MULTIPLEXER	D-1	P DIP 16	60C	DSPY GBC	FIELD	040C 55XPWR	477 / 0	620,100
8123	MULTIPLEXER	D-1	P DIP 16	60C	DSPY GBC	FIELD	040C 55XPWR	945 / 0	1,228,500
8131	COMPARATOR	D-1	P DIP 16	50C	COMP GBC	FIELD	025C	6 / 0	33,264
8131	COMPARATOR	D-1	P DIP 16	50C	COMP GBC	FIELD	025C	6 / 0	17,280
8136	COMPARATOR	D-1	P DIP 16	50C	COMP GBC	FIELD	025C	12 / 0	122,880
8136	COMPARATOR	D-1	P DIP 16	50C	COMP GBC	FIELD	025C	6 / 0	33,264
8136	COMPARATOR	D-1	P DIP 16	50C	COMP GBC	FIELD	025C	30 / 0	302,400
8136	COMPARATOR	D-1	P DIP 16	50C	COMP GBC	FIELD	025C	12 / 0	34,560
8136	COMPARATOR	D-1	P DIP 16	50C	COMP GBC	FIELD	025C	6 / 0	17,280
8136	COMPARATOR	D-1	P DIP 16	50C	COMP GBC	FIELD	025C	30 / 0	86,400
8136	COMPARATOR	X	P DIP 16	50C	COMP GBC	FIELD	025C	34 / 0	382,752

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PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO.: /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
8136	COMPARATOR	X 23	P DIP 16: 78/78	50C	COMP GBC	FIELD	025C	34 / 0 97,920	
8214	MULTIPLEXER	D-1 16	P DIP 16: 77/78	57C	DSPY GBC	FIELD	040C 55XPWR	324 / 0 421,200	
8214	MULTIPLEXER	D-1 16	P DIP 16: 78/79	57C	DSPY GBC	FIELD	040C 55XPWR	582 / 0 756,600	
8520	DIVIDER	D-1 56	P DIP 16: 77/79	50C	COMP GB	FIELD	025C	6 / 0 115,404	
8520	DIVIDER	D-1 56	P DIP 16: 77/79	50C	COMP GB	FIELD	025C	26 / 0 516,880	
8520	DIVIDER	NONE 56	N/R N/R 16: 77/79	50C	COMP GB	FIELD	025C	5 / 0 96,170	
8520	DIVIDER	NONE 56	N/R N/R 16: 77/79	50C	COMP GB	FIELD	025C	10 / 0 198,800	
8520	DIVIDER	NONE 56	N/R DIP 16: 77/79	50C	COMP GB	FIELD	025C	7 / 0 134,638	
8542	REGISTER	D-1 55	P DIP 16: 77/78	80C	DSPY GBC	FIELD	040C 55XPWR	464 / 0 603,200	
8542	REGISTER	D-1 55	P DIP 16: 78/79	80C	DSPY GBC	FIELD	040C 55XPWR	424 / 0 551,200	
8552	COUNTER DECADE	D-1 66	P DIP 16: 77/78	73C	DSPY GBC	FIELD	040C 55XPWR	5879 / 5 7,642,700	
8552	COUNTER DECADE	D-1 66	P DIP 16: 78/79	73C	DSPY GBC	FIELD	040C 55XPWR	7758 / 11 10,085,400	
8554	COUNTER BINARY	NONE 65	N/R DIP 16: 77/78	73C	DSPY GBC	FIELD	040C 55XPWR	74 / 0 96,200	
8554	COUNTER BINARY	NONE 65	N/R DIP 16: 78/79	73C	DSPY GBC	FIELD	040C 55XPWR	976 / 0 1,268,800	
8570	SHIFT REG	D-1 36	P DIP 14: 77/78	60C	DSPY GBC	FIELD	040C 55XPWR	18339 / 4 23,840,700	
8570	SHIFT REG	D-1 36	P DIP 14: 78/79	60C	DSPY GBC	FIELD	040C 55XPWR	19389 / 4 25,205,700	
8590	SHIFT REG	D-1 62	P DIP 16: 77/78	60C	DSPY GBC	FIELD	040C 55XPWR	162 / 0 210,600	
8590	SHIFT REG	D-1 62	P DIP 16: 78/79	60C	DSPY GBC	FIELD	040C 55XPWR	324 / 0 421,200	

DIGITAL DEVICE DATA

RAYTHEON TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MTEF REPORT NO. :/QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
151	COUNTER	B-1	H DIP 14	65C	COMM	CHECK	-054C 055C	25916 / 4	2151/ 4		
	BCD	N/R	77/79		AI	TCVPC	14CY 2 22HZ	708,888			
151	COUNTER	B-1	H DIP 14	65C	COMM	CHECK	-054C 055C	7648 / 1	2153/ 1		
	BCD	N/R	77/79		AI	TCVPC	14CY 2 22HZ	208,480			
151	COUNTER	B-1	H DIP 14	65C	COMM	CHECK	-054C 055C	14020 / 1	2152/ 1		
	BCD	N/R	77/79		AI	TCVPC	14CY 2 22HZ	387,848			
151	COUNTER	B-1	H DIP 14		COMM	FIELD		60 / 0			
	BCD	N/R	76/77		AIF			40,908			
151	COUNTER	B-1	H DIP 14		COMM	FIELD		40 / 0			
	BCD	N/R	76/77		AIF			16,764			
151	COUNTER	B-1	H DIP 14		COMM	FIELD		56 / 0			
	BCD	N/R	76/77		AIF			28,224			
151	COUNTER	B-1	H DIP 14		COMM	FIELD		76 / 0			
	BCD	N/R	76/77		AIT			77,324			
20	ADDER	B-2	H FPK 14	68C	COMM	FIELD	025C	9 / 0			
		N/R	75/78		GT			20,919			
3200	FLIP-FLOP	D	H DIP 14	33C	COMP	FIELD	025C	3 / 0			
	JK	N/R	77/79		GB			57,702			
3200	FLIP-FLOP	D	H DIP 14	33C	COMP	FIELD	025C	6 / 0			
	JK	N/R	77/79		GB			119,280			

SIGNETICS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MTEF REPORT NO. :/QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
416	GATE	D	H FPK 14	127C	NR	LIFE	125C	40 / 0			
	EXPANDABLE	2	77/77		N/R	OP DYN		40,000			
						LIFE		40 / 0			
						EM					
416	GATE	D	H FPK 14	127C	NR	LIFE	125C	40 / 0			
	EXPANDABLE	2	77/77		N/R	OP DYN		40,000			
						LIFE		40 / 0			
						EM					
417	GATE	D	H FPK 14	127C	NR	LIFE	125C	40 / 0			
	EXPANDABLE	2	77/77		N/R	OP DYN		40,000			
						LIFE		40 / 0			
						EM					
417	GATE	D	H FPK 14	152C	NR	LIFE	150C	40 / 0			
	EXPANDABLE	2	77/77		N/R	STGLIFE		40,000			
						LIFE		40 / 0			
						EM					

DIGITAL DEVICE DATA

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: PART NO. :	: DEVICE FUNCTION :	: SCRN. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: NFEF RREPORT NO.: /QTY FAILED :
: :	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	: :	: APPL. ENV. :	: TEST TYPE :	: :	: PART HOURS :	: :
: 424 :	: FLIP-FLOP RS :	: D 16 :	: H FPK 77/77 :	: 14: 128C :	: NR N/R :	: LIFE OP DYN :	: 125C :	: 40 / 0 : 40,000:	: :
: :	: :	: :	: :	: :	: :	: LIFE EM :	: :	: 40 / 0 :	: :
: 471 :	: GATE :	: D 3 :	: H FPK 77/77 :	: 14: 127C :	: NR N/R :	: LIFE OP DYN :	: 125C :	: 80 / 0 : 80,000:	: :
: :	: :	: :	: :	: :	: :	: LIFE EM :	: :	: 80 / 0 :	: :
: 480 :	: GATE :	: D 4 :	: H FPK 77/77 :	: 14: 127C :	: NR N/R :	: LIFE OP DYN :	: 125C :	: 40 / 0 : 40,000:	: :
: :	: :	: :	: :	: :	: :	: LIFE EM :	: :	: 40 / 0 :	: :
: 480 :	: GATE :	: D 4 :	: H FPK 77/77 :	: 14: 127C :	: NR N/R :	: LIFE OP DYN :	: 125C :	: 40 / 0 : 40,000:	: :
: :	: :	: :	: :	: :	: :	: LIFE EM :	: :	: 40 / 0 :	: :
: 481 :	: GATE :	: A-2 4 :	: H FPK 77/77 :	: 14: 127C :	: NR N/R :	: LIFE OP DYN :	: 125C :	: 40 / 0 : 40,000:	: :
: :	: :	: :	: :	: :	: :	: LIFE EM :	: :	: 40 / 0 :	: :
: 481 :	: GATE :	: D 4 :	: H FPK 77/77 :	: 14: 127C :	: NR N/R :	: LIFE OP DYN :	: 125C :	: 40 / 0 : 40,000:	: :
: :	: :	: :	: :	: :	: :	: LIFE EM :	: :	: 40 / 0 :	: :
: 490 :	: INVERTER :	: D 6 :	: H FPK 77/77 :	: 14: 126C :	: NR N/R :	: LIFE OP DYN :	: 125C :	: 40 / 0 : 40,000:	: :
: :	: :	: :	: :	: :	: :	: LIFE EM :	: :	: 40 / 0 :	: :
: 490 :	: INVERTER :	: D 6 :	: H FPK 77/77 :	: 14: 152C :	: NR N/R :	: LIFE STGLIFE :	: 150C :	: 45 / 0 : 45,000:	: :
: :	: :	: :	: :	: :	: :	: LIFE EM :	: :	: 45 / 0 :	: :
: 5400 :	: GATE :	: B-2 4 :	: H DIP 77/77 :	: 14: 155C :	: NR N/R :	: LIFE STGLIFE :	: 150C :	: 40 / 0 : 40,000:	: :
: :	: :	: :	: :	: :	: :	: LIFE EM :	: :	: 40 / 0 :	: :
: 5400 :	: GATE :	: D 4 :	: H FPK 77/77 :	: 14: 134C :	: NR N/R :	: LIFE OP DYN :	: 125C :	: 40 / 0 : 40,000:	: :
: :	: :	: :	: :	: :	: :	: LIFE EM :	: :	: 40 / 0 :	: :
: 5400 :	: GATE :	: D 4 :	: H FPK 77/77 :	: 14: 159C :	: NR N/R :	: LIFE STGLIFE :	: 150C :	: 120 / 0 : 120,000:	: :
: :	: :	: :	: :	: :	: :	: LIFE EM :	: :	: 120 / 0 :	: :
: 5400 :	: GATE :	: D 4 :	: H FPK 77/77 :	: 14: 158C :	: NR N/R :	: LIFE STGLIFE :	: 150C :	: 40 / 0 : 40,000:	: :
: :	: :	: :	: :	: :	: :	: LIFE EM :	: :	: 40 / 0 :	: :

DIGITAL DEVICE DATA

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RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO.: /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
						LIFE		40 / 0	
						EM			
5400	GATE	D	H DIP 14: 77/77	155C	NR	LIFE	150C	160 / 0	
		4			N/R	STGLIFE		160,000	
						LIFE		160 / 0	
						EM			
5400	GATE	D	H DIP 14: 77/77	155C	NR	LIFE	150C	40 / 0	
		4			N/R	STGLIFE		40,000	
						LIFE		40 / 0	
						EM			
5401	GATE	D	H FPK 14: 77/77	134C	NR	LIFE	125C	58 / 0	
		4			N/R	OP DYN		59,000	
						LIFE		58 / 0	
						EM			
5401	GATE	D	H FPK 14: 77/77	134C	NR	LIFE	125C	32 / 0	
		4			N/R	OP DYN		32,000	
						LIFE		32 / 0	
						EM			
5401	GATE	D	H FPK 14: 77/77	159C	NR	LIFE	150C	60 / 0	
		4			N/R	STGLIFE		61,000	
						LIFE		60 / 0	
						EM			
5401	GATE	D	H DIP 14: 77/77	155C	NR	LIFE	150C	45 / 0	
		4			N/R	STGLIFE		45,000	
						LIFE		45 / 0	
						EM			
5402	GATE	D	H DIP 14: 77/77	157C	NR	LIFE	150C	45 / 0	
		4			N/R	STGLIFE		45,000	
						LIFE		45 / 0	
						EM			
5402	GATE	X	H DIP 14: 77/77	132C	NR	LIFE	125C	221 / 0	
		4			N/R	OP DYN		221,000	
						LIFE		221 / 0	
						EM			
5404	INVERTER	B-1/JB: 6	H DIP 14: 77/79	59C	COMM AI	CHECK TCVP	-054C 055C 14CY 2 22HZ	1912 / 0	
								52,120	
5404	INVERTER	B-1/JB: 6	H DIP 14: 77/79	59C	COMM AI	CHECK TCVP	-054C 055C 14CY 2 22HZ	3505 / 0	
								96,962	
5404	INVERTER	B-1: 6	H DIP 14: 77/79	59C	COMM AI	CHECK TCVP	-054C 055C 14CY 2 22HZ	6749 / 0	
								184,402	
5404	INVERTER	B-2: 6	H FPK 14: 77/77	163C	NR	LIFE	150C	45 / 0	
					N/R	STGLIFE		45,000	
						LIFE		45 / 0	
						EM			
5408	GATE	X	H DIP 14: 77/77	133C	NR	LIFE	125C	87 / 0	
		4			N/R	OP DYN		87,000	

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PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	INFEE REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
						LIFE		87 / 0	
						EM			
5408	GATE	X	H DIP 14: 77/77	158C	NR	LIFE	150C	55 / 0	
		4			N/R	STGLIFE		55,000	
						LIFE		55 / 0	
						EM			
5409	GATE	X	H DIP 14: 77/77	133C	NR	LIFE	125C	88 / 0	
		4			N/R	OP DYN		88,000	
						LIFE		88 / 0	
						EM			
5409	GATE	X	H DIP 14: 77/77	158C	NR	LIFE	150C	53 / 0	
		4			N/R	STGLIFE		53,000	
						LIFE		53 / 0	
						EM			
54109	FLIP-FLOP JK	B-2/N 16	H DIP 16: 76/77	81C	RADR AU	RELDEN TCVPC	-054C 071C 6CY 2. 27HZ	209 / 0	
								10,032	
54121	FLIP-FLOP MONOSTABLE	D 8	H FPK 10: 77/77	144C	NR	LIFE	125C	45 / 0	
					N/R	OP DYN		45,000	
						LIFE		45 / 0	
						EM			
54121	FLIP-FLOP MONOSTABLE	X 8	H DIP 14: 77/77	135C	NR	LIFE	125C	220 / 0	
					N/R	OP DYN		220,000	
						LIFE		220 / 0	
						EM			
54121	FLIP-FLOP MONOSTABLE	X 8	H DIP 14: 77/77	160C	NR	LIFE	150C	38 / 0	
					N/R	STGLIFE		38,000	
						LIFE		38 / 0	
						EM			
54121	FLIP-FLOP MONOSTABLE	X 8	H FPK 14: 76/78	39C	COMP GBC	FIELD	025C	21 / 0	
								194,112	
54123	FLIP-FLOP MONOSTABLE	D 20	H DIP 16: 77/77	149C	NR	LIFE	125C	45 / 0	
					N/R	OP DYN		45,000	
						LIFE		45 / 0	
						EM			
54123	FLIP-FLOP MONOSTABLE	X 20	H DIP 16: 77/77	149C	NR	LIFE	125C	220 / 0	
					N/R	OP DYN		220,000	
						LIFE		220 / 0	
						EM			
54123	FLIP-FLOP MONOSTABLE	X 20	H DIP 16: 77/77	174C	NR	LIFE	150C	38 / 0	
					N/R	STGLIFE		38,000	
						LIFE		38 / 0	
						EM			
54151	MULTIPLEXER	X 17	H DIP 16: 77/77	140C	NR	LIFE	125C	134 / 0	
					N/R	OP DYN		134,000	
						LIFE		134 / 1	2295/ 1
						EM			

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PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. :/QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
54153	MULTIPLEXER	X	H DIP 16: 77/77	144C	NR N/R	LIFE OP DYN	125C	92 / 0 92,000:	
						LIFE EM		92 / 0	
54153	MULTIPLEXER	X	H DIP 16: 77/77	169C	NR N/P	LIFE STGLIFE	150C	58 / 0 58,000:	
						LIFE EM		58 / 0	
54154	DECODE/DENMULTIPLY	D	H DIP 24: 77/77	161C	NR N/R	LIFE STGLIFE	150C	45 / 0 45,000:	
						LIFE EM		45 / 0	
54156	DECODE/DENMULTIPLY	D	H DIP 16: 77/77	163C	NR N/A	LIFE STGLIFE	150C	45 / 0 45,000:	
						LIFE EM		45 / 0	
54160	COUNTER DECADE	X	H DIP 16: 77/77	159C	NR N/R	LIFE OP DYN	125C	56 / 0 56,000:	
						LIFE EM		56 / 0	
54160	COUNTER DECADE	X	H DIP 16: 77/77	164C	NR N/R	LIFE STGLIFE	150C	10 / 0 10,000:	
						LIFE EM		10 / 0	
54161	COUNTER BINARY	J-B	H DIP 16: 77/77		NR AIU	LIFE RELDEN OPERATE		2525 / 0 81,330:	
54161	COUNTER BINARY	D	H DIP 16: 77/77	212C	NR N/R	LIFE STGLIFE	150C	45 / 0 45,000:	
						LIFE EM		45 / 0	
54161	COUNTER BINARY	X	H DIP 16: 77/77	156C	NR N/R	LIFE OP DYN	125C	60 / 0 60,000:	
						LIFE EM		60 / 0	
54161	COUNTER BINARY	X	H DIP 16: 77/77	181C	NR N/R	LIFE STGLIFE	150C	9 / 0 9,000:	
						LIFE EM		9 / 0	
54162	COUNTER DECADE	X	H DIP 16: 77/77	156C	NR N/R	LIFE OP DYN	125C	54 / 0 54,000:	
						LIFE EM		54 / 0	
54162	COUNTER DECADE	X	H DIP 16: 77/77	181C	NR N/R	LIFE STGLIFE	150C	9 / 0 9,000:	
						LIFE EM		9 / 0	

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PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	TESTED/ FAILED	TEST REPORT NO. / QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
54163	COUNTER BINARY	X 58	H DIP 16 77/77	156C	NR N/R	LIFE OP DYN	125C	52 / 0 52,000	
						LIFE EM		52 / 0	
54163	COUNTER BINARY	X 58	H DIP 16 77/77	181C	NR N/P	LIFE STGLIFE	150C	10 / 0 10,000	
						LIFE EM		10 / 0	
54164	SHIFT REG	J-B 36	H DIP 14 77/77		RADR AIU	RELODM OPERATE		20 / 0 644	
54164	SHIFT REG	X 36	H CAN 16 77/77	144C	NR N/R	LIFE OP DYN	125C	174 / 0 174,000	
						LIFE EM		174 / 0	
54164	SHIFT REG	X 36	H CAN 16 77/77	169C	NR N/R	LIFE STGLIFE	150C	77 / 0 77,000	
						LIFE EM		77 / 0	
54174	FLIP-FLOP D	X 36	H DIP 16 77/77	148C	NR N/R	LIFE OP DYN	125C	179 / 0 179,000	
						LIFE EM		179 / 0	
54174	FLIP-FLOP D	X 36	H DIP 16 77/77	173C	NR N/R	LIFE STGLIFE	150C	80 / 0 80,000	
						LIFE EM		80 / 0	
54175	FLIP-FLOP D	X 24	H DIP 16 77/77	141C	NR N/R	LIFE OP DYN	125C	178 / 0 178,000	
						LIFE EM		178 / 0	
54175	FLIP-FLOP D	X 24	H DIP 16 77/77	166C	NR N/R	LIFE STGLIFE	150C	80 / 0 80,000	
						LIFE EM		80 / 0	
54180	GENERATOR	X 14	H DIP 14 77/77	144C	NR N/R	LIFE OP DYN	125C	134 / 0 134,000	
						LIFE EM		134 / 1	2296/ 1
54181	LOGIC UNIT ARITHMETIC	D 63	H EPK 24 77/77	223C	NR N/R	LIFE STGLIFE	150C	45 / 0 45,000	
						LIFE EM		45 / 0	
54182	GENERATOR	X 19	H DIP 16 77/77	144C	NR N/R	LIFE OP DYN	125C	179 / 0 179,000	
						LIFE EM		179 / 0	

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PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
54193	COUNTER BINARY	D 48	77/77	H DIP 16: 158C	NR N/R	LIFE OP DYN	125C	45 / 0 45,000	
						LIFE EM		45 / 1 2297/ 1	
54193	COUNTER BINARY	D 48	77/77	H DIP 16: 158C	NR N/R	LIFE OP DYN	125C	45 / 0 45,000	
						LIFE EM		45 / 0	
5425	INTERFACE TRANSLATOR	X 4	77/77	H DIP 14: 130C	NR N/R	LIFE OP DYN	125C	134 / 0 134,000	
						LIFE EM		134 / 0	
5426	INTERFACE TRANSLATOR	X 4	77/77	H DIP 14: 155C	NR N/R	LIFE STGLIFE	150C	38 / 0 38,000	
						LIFE EM		38 / 0	
5427	GATE	X 3	77/77	H DIP 14: 133C	NR N/R	LIFE OP DYN	125C	134 / 0 134,000	
						LIFE EM		134 / 0	
5437	BUFFER	X 4	77/77	H FPK 14: 146C	NR N/R	LIFE OP DYN	125C	74 / 0 74,000	
						LIFE EM		74 / 0	
5438	BUFFER	X 4	77/77	H FPK 14: 146C	NR N/R	LIFE OP DYN	125C	73 / 0 73,000	
						LIFE EM		73 / 0	
5439	BUFFER	B-2 4	77/77	H DIP 14: 162C	NR N/R	LIFE STGLIFE	150C	45 / 0 45,000	
						LIFE EM		45 / 0	
5440	BUFFER	X 2	77/77	H FPK 14: 136C	NR N/R	LIFE OP DYN	125C	74 / 0 74,000	
						LIFE EM		74 / 0	
5440	BUFFER	X 2	77/77	H FPK 14: 161C	NR N/R	LIFE STGLIFE	150C	7 / 0 7,000	
						LIFE EM		7 / 0	
5442	DECODER BCD/DECIMAL	X 18	77/77	H DIP 16: 140C	NR N/R	LIFE OP DYN	125C	43 / 0 43,000	
						LIFE EM		43 / 0	
5442	DECODER BCD/DECIMAL	X 18	77/77	H DIP 16: 165C	NR N/R	LIFE STGLIFE	150C	15 / 0 15,000	

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PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
						LIFE		15 / 0	
						EM			
5444	DECODER	D	H FPK 16	174C	NR	LIFE	150C	40 / 0	
	DECIMAL	18	77/77		N/R	STGLIFE		40,000	
						LIFE		40 / 0	
						EM			
5444	DECODER	D	H DIP 16	163C	NR	LIFE	150C	80 / 0	
	DECIMAL	18	77/77		N/R	STGLIFE		80,000	
						LIFE		80 / 0	
						EM			
5450	GATE	X	H DIP 14	129C	NR	LIFE	125C	91 / 0	
	EXPANDABLE	6	77/77		N/R	OP DYN		91,000	
						LIFE		91 / 0	
						EM			
5450	GATE	X	H DIP 14	154C	NR	LIFE	150C	55 / 0	
	EXPANDABLE	6	77/77		N/R	STGLIFE		55,000	
						LIFE		55 / 0	
						EM			
5451	GATE	X	H DIP 14	129C	NR	LIFE	125C	91 / 0	
		6	77/77		N/R	OP DYN		91,000	
						LIFE		91 / 0	
						EM			
5451	GATE	X	H DIP 14	154C	NR	LIFE	150C	56 / 0	
		6	77/77		N/R	STGLIFE		56,000	
						LIFE		56 / 0	
						EM			
5453	GATE	X	H DIP 14	128C	NR	LIFE	125C	55 / 0	
	EXPANDABLE	5	77/77		N/R	OP DYN		55,000	
						LIFE		55 / 0	
						EM			
5453	GATE	X	H DIP 14	153C	NR	LIFE	150C	9 / 0	
	EXPANDABLE	5	77/77		N/R	STGLIFE		9,000	
						LIFE		9 / 0	
						EM			
5454	GATE	X	H DIP 14	128C	NR	LIFE	125C	55 / 0	
		5	77/77		N/R	OP DYN		55,000	
						LIFE		55 / 0	
						EM			
5454	GATE	X	H DIP 14	153C	NR	LIFE	150C	9 / 0	
		5	77/77		N/R	STGLIFE		9,000	
						LIFE		9 / 0	
						EM			
5470	FLIP-FLOP	D	H FPK 14	139C	NR	LIFE	125C	40 / 0	
	JK	11	77/77		N/R	OP DYN		40,000	
						LIFE		40 / 0	
						EM			

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PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
5470	FLIP-FLOP JK	D-1 11	P DIP 14: 77/77	135C	NR N/R	LIFE OP DYN	125C	40 / 0 40,000	
						LIFE EM		40 / 0	
5474	FLIP-FLOP D	B-2 12	H FPK 14: 77/77	142C	NR N/R	LIFE OP DYN	125C	45 / 0 45,000	
						LIFE EM		45 / 0	
5475	LATCH BISTABLE	B-2 24	H FPK 16: 77/77	183C	NR N/R	LIFE STGLIFE	150C	45 / 0 45,000	
						LIFE EM		45 / 0	
5475	LATCH BISTABLE	X 24	H DIP 16: 77/77	142C	NR N/R	LIFE OP DYN	125C	179 / 0 179,000	
						LIFE EM		179 / 0	
5475	LATCH BISTABLE	X 24	H DIP 16: 77/77	167C	NR N/R	LIFE STGLIFE	150C	80 / 0 80,000	
						LIFE EM		80 / 0	
5476	FLIP-FLOP JK	D 16	H DIP 16: 77/77	161C	NR N/R	LIFE STGLIFE	150C	80 / 0 80,000	
						LIFE EM		80 / 0	
5476	FLIP-FLOP JK	D 16	H DIP 16: 77/77	161C	NR N/R	LIFE STGLIFE	150C	40 / 0 40,000	
						LIFE EM		40 / 0	
5476	FLIP-FLOP JK	X 16	H DIP 16: 77/77	134C	NR N/R	LIFE OP DYN	125C	221 / 0 221,000	
						LIFE EM		221 / 0	
5476	FLIP-FLOP JK	X 16	H DIP 16: 77/77	159C	NR N/R	LIFE STGLIFE	150C	38 / 0 38,000	
						LIFE EM		38 / 0	
5477	LATCH BISTABLE	X 24	H DIP 14: 77/77	143C	NR N/R	LIFE OP DYN	125C	179 / 0 179,000	
						LIFE EM		179 / 0	
5477	LATCH BISTABLE	X 24	H DIP 14: 77/77	168C	NR N/R	LIFE STGLIFE	150C	80 / 0 80,000	
						LIFE EM		80 / 0	
5483	ADDER FULL	B-2 36	H FPK 16: 77/77	209C	NR N/R	LIFE STGLIFE	150C	45 / 0 45,000	

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PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO.: /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
						LIFE		45 / 0	
						EM			
5483	ADDER FULL	X 36	H DIP 16: 77/77	155C	NR N/R	LIFE 125C		220 / 0	
						OP DYN		220,000	
						LIFE		220 / 1	2298/ 1
						EM			
5483	ADDER FULL	X 36	H DIP 16: 77/77	180C	NR N/R	LIFE 150C		38 / 0	
						STGLIFE		38,000	
						LIFE		38 / 0	
						EM			
5485	COMPARATOR	X 31	H DIP 16: 77/77	156C	NR N/R	LIFE 125C		132 / 0	
						OP DYN		132,000	
						LIFE		132 / 0	
						EM			
5486	GATE	D 4	H FPK 14: 77/77	182C	NR N/R	LIFE 150C		45 / 0	
						STGLIFE		45,000	
						LIFE		45 / 0	
						EM			
5486	GATE	X 4	H DIP 14: 77/77	142C	NR N/R	LIFE 125C		221 / 0	
						OP DYN		221,000	
						LIFE		221 / 0	
						EM			
5492	COUNTER BINARY	D 26	H DIP 14: 77/77	166C	NR N/R	LIFE 150C		45 / 0	
						STGLIFE		45,000	
						LIFE		45 / 0	
						EM			
5492	COUNTER BINARY	D 26	H DIP 14: 77/77	143C	NR N/R	LIFE 125C		110 / 0	
						OP DYN		110,000	
						LIFE		110 / 0	
						EM			
5492	COUNTER BINARY	D 26	H DIP 14: 77/77	168C	NR N/R	LIFE 150C		19 / 0	
						STGLIFE		19,000	
						LIFE		19 / 0	
						EM			
5495	SHIFT REG	X 37	H DIP 14: 77/77	153C	NR N/R	LIFE 125C		220 / 0	
						OP DYN		220,000	
						LIFE		220 / 0	
						EM			
5495	SHIFT REG	X 37	H DIP 14: 77/77	178C	NR N/R	LIFE 150C		38 / 0	
						STGLIFE		38,000	
						LIFE		38 / 0	
						EM			
7400	GATE	D 4	H FPK 14: 77/77	134C	NR N/R	LIFE 125C		40 / 0	
						OP DYN		40,000	
						LIFE		40 / 0	
						EM			

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PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEE REPORT NO./QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
7400	GATE	D 4	H FPK 14: 77/77	159C	NR N/P	LIFE STGLIFE	150C	40 / 0 40,000:	
						LIFE EM		40 / 0	
7400	GATE	D 4	H DIP 14: 77/77	130C	NR N/R	LIFE OP DYN	125C	35 / 0 35,000:	
						LIFE EM		35 / 0	
7400	GATE	D-1 4	P DIP 14: 77/77	132C	NR N/R	LIFE OP DYN	125C	419 / 0 419,000:	
						LIFE EM		419 / 0	
7400	GATE	D-1 4	P DIP 14: 77/77	132C	NR N/R	LIFE OP DYN	125C	149 / 0 151,000:	
						LIFE EM		149 / 0	
7400	GATE	D-1 4	P DIP 14: 77/77	132C	NR N/R	LIFE OP DYN	125C	246 / 0 249,000:	
						LIFE EM		246 / 0	
7400	GATE	D-1 4	P DIP 14: 77/77	132C	NR N/R	LIFE OP DYN	125C	59 / 0 60,000:	
						LIFE EM		59 / 0	
7400	GATE	D-1 4	P DIP 14: 77/77	132C	NR N/R	LIFE OP DYN	125C	19 / 0 19,000:	
						LIFE EM		19 / 1	2299/ 1
7400	GATE	D-1 4	P DIP 14: 77/77	132C	NR N/R	LIFE OP DYN	125C	50 / 0 101,000:	
						LIFE EM		50 / 1	2300/ 1
7400	GATE	D-1 4	P DIP 14: 77/77	132C	NR N/R	LIFE OP DYN	125C	246 / 0 497,000:	
						LIFE EM		246 / 0	
7400	GATE	D-1 4	P DIP 14: 77/77	132C	NR N/R	LIFE OP DYN	125C	47 / 0 95,000:	
						LIFE EM		47 / 0	
7400	GATE	D-1 4	P DIP 14: 77/77	132C	NR N/R	LIFE OP DYN	125C	95 / 0 96,000:	
						LIFE EM		95 / 0	
7400	GATE	D-1 4	P DIP 14: 77/77	132C	NR N/R	LIFE OP DYN	125C	49 / 0 103,000:	

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PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	REF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
						LIFE		49 / 0			
						EM					
7400	GATE	D-1	P DIP 14: 77/77	132C	NR	LIFE	125C	47 / 0			
		4			N/R	OP DYN		95,000			
						LIFE		47 / 5	2301/	5	
						EM					
7400	GATE	D-1	P DIP 14: 77/77	132C	NR	LIFE	125C	50 / 0			
		4			N/R	OP DYN		50,000			
						LIFE		50 / 1			
						EM					
7400	GATE	D-1	P DIP 14: 77/77	157C	NR	LIFE	150C	241 / 0			
		4			N/R	STGLIFE		241,000			
						LIFE		241 / 0			
						EM					
7400	GATE	D-1	P DIP 14: 77/77	157C	NR	LIFE	150C	40 / 0			
		4			N/R	STGLIFE		40,000			
						LIFE		40 / 1	2303/	1	
						EM					
7400	GATE	D-1	P DIP 14: 77/77	157C	NR	LIFE	150C	466 / 0			
		4			N/R	STGLIFE		469,000			
						LIFE		466 / 0			
						EM					
7400	GATE	D-1	P DIP 14: 77/77	157C	NR	LIFE	150C	198 / 0			
		4			N/R	STGLIFE		400,000			
						LIFE		198 / 0			
						EM					
7400	GATE	D-1	P DIP 14: 77/77	157C	NR	LIFE	150C	49 / 0			
		4			N/R	STGLIFE		99,000			
						LIFE		49 / 1	2304/	1	
						EM					
7400	GATE	D-1	P DIP 14: 77/77	157C	NR	LIFE	150C	46 / 0			
		4			N/R	STGLIFE		139,000			
						LIFE		46 / 0			
						EM					
7400	GATE	D-1	P DIP 14: 77/77	157C	NR	LIFE	150C	46 / 0			
		4			N/R	STGLIFE		139,000			
						LIFE		46 / 0			
						EM					
7400	GATE	D-1	P DIP 14: 77/77	157C	NR	LIFE	150C	47 / 0			
		4			N/R	STGLIFE		95,000			
						LIFE		47 / 5	2305/	5	
						EM					
7404	INVERTER	D	H DIP 14: 77/77	132C	NR	LIFE	125C	40 / 0			
		6			N/R	OP DYN		40,000			
						LIFE		40 / 0			
						EM					

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PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
7404	INVERTER	D 6	H DIP 14: 77/77	157C	NR N/R	LIFE STGLIFE	150C	40 / 0 40,000	
						LIFE EM		40 / 0	
7404	INVERTER	D-1 6	P DIP 14: 77/77	160C	NR N/R	LIFE STGLIFE	150C	48 / 0 48,000	
						LIFE EM		48 / 0	
7405	INVERTER	D-1 6	P DIP 14: 77/77	160C	NR N/P	LIFE STGLIFE	150C	40 / 0 40,000	
						LIFE EM		40 / 0	
7408	GATE	D-1 4	P DIP 14: 77/77	161C	NR N/R	LIFE STGLIFE	150C	25 / 0 25,000	
						LIFE EM		25 / 0	
74121	FLIP-FLOP MONOSTABLE	D 8	H DIP 14: 77/77	135C	NR N/R	LIFE OP DYN	125C	45 / 0 45,000	
						LIFE EM		45 / 0	
74121	FLIP-FLOP MONOSTABLE	D-1 8	P DIP 14: 77/77	139C	NR N/R	LIFE OP DYN	125C	89 / 0 90,000	
						LIFE EM		89 / 0	
74123	FLIP-FLOP MONOSTABLE	D-1 20	P DIP 16: 77/77	158C	NR N/R	LIFE OP DYN	125C	70 / 0 71,000	
						LIFE EM		70 / 1	2306/ 1
74123	FLIP-FLOP MONOSTABLE	D-1 20	P DIP 16: 77/77	183C	NR N/R	LIFE STGLIFE	150C	74 / 0 75,000	
						LIFE EM		74 / 0	
74147	ENCODER	D-1 31	P DIP 16: 77/77	158C	NR N/R	LIFE OP DYN	125C	46 / 0 46,000	
						LIFE EM		46 / 0	
74147	ENCODER	D-1 31	P DIP 16: 77/77	183C	NR N/R	LIFE STGLIFE	150C	46 / 0 46,000	
						LIFE EM		46 / 0	
74150	MULTIPLEXER	D-1 26	P DIP 24: 77/77	175C	NR N/R	LIFE STGLIFE	150C	45 / 0 45,000	
						LIFE EM		45 / 0	
74156	DECODER/DEMULTIPLX	D-1 15	P DIP 16: 77/77	160C	NR N/R	LIFE STGLIFE	150C	45 / 0 45,000	

DIGITAL DEVICE DATA

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PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MEF REPORT NO.: /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
						LIFE		45 / 0	
						EM			
74160	COUNTER DECADE	D-1 60	P DIP 16: 77/77	193C	NR N/R	LIFE STGLIFE	150C	45 / 0 45,000	
						LIFE		45 / 0	
						EM			
74161	COUNTER BINARY	D-1 57	P DIP 16: 77/77	168C	NR N/R	LIFE OP DYN	125C	102 / 0 102,000	
						LIFE		102 / 0	
						EM			
74161	COUNTER BINARY	D-1 57	P DIP 16: 77/77	193C	NR N/R	LIFE STGLIFE	150C	102 / 0 102,000	
						LIFE		102 / 0	
						EM			
74164	SHIFT REG	D-1 36	P DIP 14: 77/77	151C	NR N/R	LIFE OP DYN	125C	45 / 0 45,000	
						LIFE		45 / 0	
						EM			
74175	FLIP-FLOP D	D 24	H DIP 16: 77/77	141C	NR N/R	LIFE OP DYN	125C	46 / 0 46,000	
						LIFE		46 / 0	
						EM			
74175	FLIP-FLOP D	D 24	H DIP 16: 77/77	166C	NR N/R	LIFE STGLIFE	150C	46 / 0 46,000	
						LIFE		46 / 1	2307/ 1
						EM			
74175	FLIP-FLOP D	D-1 24	P DIP 16: 77/77	147C	NR N/R	LIFE OP DYN	125C	46 / 0 46,000	
						LIFE		46 / 0	
						EM			
74193	COUNTER BINARY	D 48	H DIP 16: 77/77	158C	NR N/R	LIFE OP DYN	125C	46 / 0 46,000	
						LIFE		46 / 0	
						EM			
74193	COUNTER BINARY	D-1 48	P DIP 16: 77/77	171C	NR N/R	LIFE OP DYN	125C	83 / 0 83,000	
						LIFE		83 / 0	
						EM			
74193	COUNTER BINARY	D-1 48	P DIP 16: 77/77	196C	NR N/R	LIFE STGLIFE	150C	46 / 0 46,000	
						LIFE		46 / 0	
						EM			
7420	GATE	D 2	H DIP 14: 77/77	128C	NR N/R	LIFE OP DYN	125C	46 / 0 46,000	
						LIFE		46 / 0	
						EM			

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SIGNETICS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER			
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
7420	GATE	D 2	H DIP 14 77/77	153C	NR N/R	LIFE STGLIFE	150C	46 / 0 46,000	
						LIFE EM		46 / 0	
7420	GATE	D-1 2	P DIP 14 77/77	129C	NR N/R	LIFE OP DYN	125C	46 / 0 46,000	
						LIFE EM		46 / 0	
7420	GATE	D-1 2	P DIP 14 77/77	154C	NR N/R	LIFE STGLIFE	150C	46 / 0 46,000	
						LIFE EM		46 / 0	
7426	INTERFACE TRANSLATOR	D-1 4	P DIP 14 77/77	132C	NR N/R	LIFE OP DYN	125C	46 / 0 46,000	
						LIFE EM		46 / 0	
7426	INTERFACE TRANSLATOR	D-1 4	P DIP 14 77/77	157C	NR N/R	LIFE STGLIFE	150C	46 / 0 46,000	
						LIFE EM		46 / 0	
7440	BUFFER	D-1 2	P DIP 14 77/77	133C	NR N/R	LIFE OP DYN	125C	54 / 0 54,000	
						LIFE EM		54 / 0	
7440	BUFFER	D-1 2	P DIP 14 77/77	158C	NR N/R	LIFE STGLIFE	150C	45 / 0 40,000	
						LIFE EM		45 / 0	
7440	BUFFER	D-1 2	P DIP 14 77/77	158C	NR N/R	LIFE STGLIFE	150C	46 / 0 46,000	
						LIFE EM		46 / 0	
7442	DECODER BCD/DECIMAL	D-1 18	P DIP 16 77/77	145C	NR N/R	LIFE OP DYN	125C	40 / 0 40,000	
						LIFE EM		40 / 0	
7442	DECODER BCD/DECIMAL	D-1 18	P DIP 16 77/77	145C	NR N/R	LIFE OP DYN	125C	77 / 0 78,000	
						LIFE EM		77 / 0	
7442	DECODER BCD/DECIMAL	D-1 18	P DIP 16 77/77	170C	NR N/R	LIFE STGLIFE	150C	40 / 0 40,000	
						LIFE EM		40 / 0	
7442	DECODER BCD/DECIMAL	D-1 18	P DIP 16 77/77	170C	NR N/R	LIFE STGLIFE	150C	46 / 0 46,000	

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PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	INFREP REPORT NO.: /OTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
7443	DECODER DECIMAL	D-1 18	P DIP 77/77	16: 170C	NR N/R	LIFE EM LIFE STGLIFE	150C	46 / 0 40 / 0 40,000:	2308/ 1
7473	FLIP-FLOP JK	D-1 16	P DIP 77/77	14: 166C	NR N/R	LIFE STGLIFE	150C	45 / 0 45,000:	
7474	FLIP-FLOP D	D 12	H DIP 77/77	14: 138C	NR N/R	LIFE OP DYN	125C	45 / 0 45,000:	
7490	COUNTER DECADE	D-1 15	P DIP 77/77	14: 150C	NR N/R	LIFE OP DYN	125C	146 / 0 146,000:	
7490	COUNTER DECADE	D-1 15	P DIP 77/77	14: 150C	NR N/R	LIFE OP DYN	125C	77 / 0 78,000:	
7490	COUNTER DECADE	D-1 15	P DIP 77/77	14: 175C	NR N/R	LIFE STGLIFE	150C	102 / 0 102,000:	
7491	SHIFT REG	D-1 67	P DIP 77/77	14: 152C	NR N/R	LIFE OP DYN	125C	43 / 0 43,000:	
7491	SHIFT REG	D-1 67	P DIP 77/77	14: 152C	NR N/R	LIFE OP DYN	125C	46 / 0 46,000:	2309/ 1
8200	SHIFT REG	D 62	H FPK 77/77	24: 216C	NR N/R	LIFE STGLIFE	150C	45 / 0 45,000:	
8200	SHIFT REG	D 62	H DIP 77/77	24: 175C	NR N/R	LIFE STGLIFE	150C	40 / 0 40,000:	2310/ 1
8201	SHIFT REG	D 62	H DIP 77/77	24: 175C	NR N/R	LIFE STGLIFE	150C	90 / 0 90,000:	

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PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO.: :/QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
8202	SHIFT REG	D 62	H FPK 24: 77/77	216C	NR N/R	LIFE STGLIFE	150C	85 / 0	85,000
						LIFE EM		85 / 0	
8202	SHIFT REG	D 62	H DIP 24: 77/77	175C	NR N/R	LIFE STGLIFE	150C	40 / 0	40,000
						LIFE EM		40 / 0	
8202	SHIFT REG	D-1 62	P DIP 24: 77/78	69C	DSPY GBC	FIELD	040C 55XPWR	3029 / 7	3,937,700
8202	SHIFT REG	D-1 62	P DIP 24: 78/79	69C	DSPY GBC	FIELD	040C 55XPWR	3220 / 0	4,186,000
8203	SHIFT REG	D 62	H FPK 24: 77/77	216C	NR N/R	LIFE STGLIFE	150C	40 / 0	40,000
						LIFE EM		40 / 0	
8230	MULTIPLEXER	D 17	H FPK 16: 77/77	160C	NR N/R	LIFE STGLIFE	150C	40 / 0	40,000
						LIFE EM		40 / 0	
8233	MULTIPLEXER	D 14	H DIP 16: 77/77	169C	NR N/R	LIFE STGLIFE	150C	40 / 0	40,000
						LIFE EM		40 / 0	
8233	MULTIPLEXER	D 14	H DIP 16: 77/77	169C	NR N/R	LIFE STGLIFE	150C	45 / 0	45,000
						LIFE EM		45 / 0	
8234	MULTIPLEXER	D-1 14	P DIP 16: 77/78	56C	DSPY GBC	FIELD	040C 55XPWR	8 / 0	10,400
8242	GATE	D 20	H FPK 14: 77/77	158C	NR N/R	LIFE OP DYN	125C	45 / 0	45,000
						LIFE EM		45 / 0	
8242	GATE	D 20	H FPK 14: 77/77	183C	NR N/R	LIFE STGLIFE	150C	45 / 0	45,000
						LIFE EM		45 / 0	
8242	GATE	D-1 20	P DIP 14: 77/77	151C	NR N/R	LIFE OP DYN	125C	45 / 0	45,000
						LIFE EM		45 / 0	
8243	SCALER	D-1 70	P DIP 24: 77/78	62C	DSPY GBC	FIELD	040C 55XPWR	6 / 0	7,800
8260	LOGIC UNIT ARITHMETIC	D 56	H DIP 24: 77/77	179C	NR N/R	LIFE STGLIFE	150C	45 / 0	45,000

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:OPERATIONAL TYPE

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PART NO.	DEVICE FUNCTION	SCEN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO.: :/QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PAR. HOURS	
						LIFE EM		45 / 0	
8263	MULTIPLEXER	D 34	H FPK 24: 77/77	175C	NR N/R	LIFE STGLIFE	150C	40 / 0 40,000	
8263	MULTIPLEXER	D-1 34	P DIP 24: 77/78	66C	DSPY GBC	FIELD	040C 55XPWR:	311 / 0 404,300	
8263	MULTIPLEXER	D-1 34	P DIP 24: 78/79	66C	DSPY GBC	FIELD	040C 55TPWR:	554 / 0 720,200	
8267	MULTIPLEXER	D-1 18	P DIP 16: 77/78	60C	DSPY GBC	FIELD	040C 55TPWR:	1490 / 1 1,937,000	
8267	MULTIPLEXER	D-1 18	P DIP 16: 78/79	60C	DSPY GBC	FIELD	040C 55TPWR:	2560 / 0 3,328,000	
8271	SHIFT REG	D-1 58	P DIP 16: 77/78	67C	DSPY GBC	FIELD	040C 55TPWR:	3642 / 0 4,734,600	
8271	SHIFT REG	D-1 58	P DIP 16: 78/79	67C	DSPY GBC	FIELD	040C 55TPWR:	6131 / 0 7,970,300	
8273	SHIFT REG	D-1 63	P DIP 16: 77/78	74C	DSPY GBC	FIELD	040C 55TPWR:	326 / 0 423,800	
8273	SHIFT REG	D-1 63	P DIP 16: 78/79	74C	DSPY GBC	FIELD	040C 55TPWR:	1154 / 0 1,500,200	
8280	COUNTER DECADE	D-1 44	P DIP 14: 77/77	153C	NR N/R	LIFE OP DYN	125C	40 / 0 40,000	
8280	COUNTER DECADE	D-1 44	P DIP 14: 77/78	60C	DSPY GBC	FIELD	040C 55TPWR:	168 / 0 218,400	
8280	COUNTER DECADE	D-1 44	P DIP 14: 78/79	60C	DSPY GBC	FIELD	040C 55TPWR:	82 / 0 106,600	
8281	COUNTER BINARY	D-1 43	P DIP 14: 77/78	60C	DSPY GBC	FIELD	040C 55TPWR:	1529 / 0 1,987,700	
8281	COUNTER BINARY	D-1 43	P DIP 14: 78/79	60C	DSPY GBC	FIELD	040C 55TPWR:	2543 / 0 3,305,900	
8290	COUNTER DECADE	D-1 44	P DIP 14: 77/78	61C	DSPY GBC	FIELD	040C 55TPWR:	3402 / 2 4,422,600	
8290	COUNTER DECADE	D-1 44	P DIP 14: 78/79	61C	DSPY GBC	FIELD	040C 55TPWR:	5087 / 3 6,613,100	
8291	COUNTER BINARY	D-1 43	P DIP 14: 77/78	61C	DSFY GBC	FIELD	040C 55TPWR:	370 / 0 481,000	
8291	COUNTER BINARY	D-1 43	P DIP 14: 78/79	61C	DSFY GBC	FIELD	040C 55TPWR:	358 / 1 465,400	
8292	COUNTER DECADE	D 44	H DIP 14: 77/78	46C	DSPY GBC	FIELD	040C 55TPWR:	840 / 0 1,052,000	
8292	COUNTER DECADE	D 44	H DIP 14: 78/79	46C	DSPY GBC	FIELD	040C 55TPWR:	610 / 0 793,000	

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APT NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
8292	COUNTER DECADE	D-1 44	P DIP 14 77/78	48C	DSPY GBC	FIELD	040C 55XPWR	1983 / 1 2,577,900	
8292	COUNTER DECADE	D-1 44	P DIP 14 78/79	48C	DSPY GBC	FIELD	040C 55XPWR	3126 / 1 4,063,800	
8293	COUNTER BINARY	B-2/N 43	H DIP 14 76/77	77C	RADR AU	RELDDEM TCVPC	-054C 071C 6CY 2. 27HZ	1881 / 0 90,288	
8680	INVERTER	B-2/N 6	H DIP 14 75/78	73C	RADR AUF	FIELD		29 / 0 6,781	
8680	INVERTER	B-2/N 6	H DIP 14 75/78	73C	RADR AUF	FIELD		45 / 0 5,442	
8680	INVERTER	B-2/N 6	H DIP 14 75/78	73C	RADR AUF	FIELD		12 / 0 24	
8680	INVERTER	B-2/N 6	H DIP 14 75/78	73C	RADR AUF	FIELD		62 / 0 11,468	
8680	INVERTER	B-2/N 6	H DIP 14 75/78	73C	RADR AUF	FIELD		85 / 0 8,680	
8680	INVERTER	B-2/N 6	H DIP 14 75/78	73C	RADR AUF	FIELD		713 / 0 154,054	
8680	INVERTER	B-2/N 6	H DIP 14 75/78	73C	RADR AUF	FIELD		29 / 0 3,314	
8680	INVERTER	B-2/N 6	H DIP 14 75/78	73C	RADR AUF	FIELD		102 / 0 9,588	
8680	INVERTER	B-2/N 6	H DIP 14 75/78	73C	RADR AUF	FIELD		342 / 0 70,680	
8680	INVERTER	B-2/N 6	H DIP 14 75/78	73C	RADR AUF	FIELD		11 / 0 11	
8824	FLIP-FLOP JK	D 22	H DIP 14 77/77	157C	NR N/R	LIFE STGLIFE	150C	45 / 0 45,000	
						LIFE EM		45 / 0	
8826	FLIP-FLOP JK	D-1 16	P DIP 14 77/78	44C	DSPY GBC	FIELD	040C 55XPWR	45 / 0 58,500	
8826	FLIP-FLOP JK	D-1 16	P DIP 14 78/79	44C	DSPY GBC	FIELD	040C 55XPWR	4 / 0 5,200	

TEXAS INSTRUMENTS
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RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
5402	GATE	B-2/N 4	H DIP 14 76/77	76C	RADR AU	RELDDEM TCVPC	-054C 071C 6CY 2. 27HZ	209 / 0 10,032	

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TEXAS INSTRUMENTS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MEFF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
5408	GATE	D-1 4	P DIP 14 77/78	48C	DSPY GBC	FIELD	040C 55XPWR	26 / 0 33,800			
5408	GATE	D-1 4	P DIP 14 78/79	48C	DSPY GBC	FIELD	040C 55XPWR	333 / 0 432,900			
54148	ENCODER	B-1/JB 29	H DIP 16 77/79	43C	RADR GF	FIELD	025C	3 / 0 41,040			
54148	ENCODER	B-1/JB 29	H DIP 16 79/79	43C	RADR GF	FIELD	025C	3 / 0 12,960			
54180	GENERATOR	B-1 14	H DIP 14 78/78	41C	COMP GT	RELDEN	025C	15 / 0 5,273			
54191	COUNTER BINARY	B-1 60	H DIP 16 78/78	52C	COMP GT	RELDEN	025C	9 / 0 3,164			
54193	COUNTER BINARY	B-1 48	H DIP 16 78/78	52C	COMP GT	RELDEN	025C	12 / 0 4,218			
54196	COUNTER DECADE	D 39	H DIP 14 78/79	62C	DSPY GBC	FIELD	040C 55XPWR	40 / 0 52,000			
5423	GATE EXPANDABLE	D 2	H DIP 16 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	738 / 0 959,400			
5423	GATE EXPANDABLE	D 2	H DIP 16 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	676 / 2 878,800			
54298	MULTIPLEXER	B-1/JB 51	H DIP 16 77/79	43C	RADR GF	FIELD	025C	14 / 0 191,520			
54298	MULTIPLEXER	B-1/JB 51	H DIP 16 79/79	43C	RADR GF	FIELD	025C	14 / 0 60,480			
5442A	DECODER BCD/DECIMAL	D 18	H DIP 16 77/78	53C	DSPY GBC	FIELD	040C 55XPWR	1253 / 0 1,628,900			
5442A	DECODER BCD/DECIMAL	D 18	H DIP 16 78/79	53C	DSPY GBC	FIELD	040C 55XPWR	2902 / 0 3,772,600			
5483A	ADDER FULL	B-1/JB 36	H DIP 16 77/79	61C	RADR GF	FIELD	025C	80 / 0 1,094,400			
5483A	ADDER FULL	B-1/JB 36	H DIP 16 79/79	61C	RADR GF	FIELD	025C	80 / 0 345,600			
7400	GATE	D-1 4	P DIP 14 77/77	30C	INTR GBC	CHECK OPERATE	025C	4 / 0 1,160			
7402	GATE	D-1 4	P DIP 14 77/77	31C	INTR GBC	CHECK OPERATE	025C	2 / 0 880			
7403	GATE	D-1 4	P DIP 14 77/77	30C	INTR GBC	CHECK OPERATE	025C	1 / 0 440			
7404	INVERTER	D-1 6	P DIP 14 77/77	32C	INTR GBC	CHECK OPERATE	025C	6 / 0 2,640			
7406	INTERFACE BUFFER/DRIVER	D-1 6	P DIP 14 77/78	56C	DSPY GBC	FIELD	040C 55XPWR	745 / 8 968,500			
7406	INTERFACE BUFFER/DRIVER	D-1 6	P DIP 14 78/79	56C	DSPY GBC	FIELD	040C 55XPWR	1280 / 5 1,664,000			
7408	GATE	D-1 4	P DIP 14 77/77	33C	INTR GBC	CHECK OPERATE	025C	1 / 0 440			

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PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
7409	GATE	D-1	P DIP 14	48C	DSPY	FIELD	040C 55XPWR	13977 / 8	18,170,100
		4	77/78		GBC				
7409	GATE	D-1	P DIP 14	48C	DSPY	FIELD	040C 55XPWR	17627 / 7	22,915,100
		4	78/79		GBC				
7410	GATE	D-1	P DIP 14	29C	INTR	CHECK	025C	1 / 0	440
		3	77/77		GBC	OPERATE			
74100	LATCH BISTABLE	D-1	P DIP 24	65C	DSPY	FIELD	040C 55XPWR	5936 / 1	7,716,800
		56	77/78		GBC				
74100	LATCH BISTABLE	D-1	P DIP 24	65C	DSPY	FIELD	040C 55XPWR	9681 / 0	12,585,300
		56	78/79		GBC				
7412	GATE	D-1	P DIP 14	44C	DSPY	FIELD	040C 55XPWR	2665 / 0	3,464,500
		3	77/78		GBC				
7412	GATE	D-1	P DIP 14	44C	DSPY	FIELD	040C 55XPWR	5037 / 0	6,548,100
		3	78/79		GBC				
74123	FLIP-FLOP MONOSTABLE	D-1	P DIP 14	64C	DSPY	FIELD	040C 55XPWR	25607 / 10	33,289,100
		20	77/78		GBC				
74123	FLIP-FLOP MONOSTABLE	D-1	P DIP 14	64C	DSPY	FIELD	040C 55XPWR	36007 / 9	46,809,100
		20	78/79		GBC				
74125	BUFFER	D-1	P DIP 14	42C	INTR	CHECK	025C	1 / 0	440
		4	77/77		GBC	OPERATE			
74132	GATE SCHMITT TRIGGER	D-1	P DIP 14	51C	DSPY	FIELD	040C 55XPWR	25539 / 11	33,200,700
		4	77/78		GBC				
74132	GATE SCHMITT TRIGGER	D-1	P DIP 14	51C	DSPY	FIELD	040C 55XPWR	30983 / 15	40,277,900
		4	78/79		GBC				
7414	INVERTER SCHMITT TRIGGER	D-1	P DIP 14	56C	DSPY	FIELD	040C 55XPWR	18690 / 4	24,297,000
		6	77/78		GBC				
7414	INVERTER SCHMITT TRIGGER	D-1	P DIP 14	56C	DSPY	FIELD	040C 55XPWR	24683 / 7	32,087,900
		6	78/79		GBC				
7414	INVERTER SCHMITT TRIGGER	D-1	P DIP 14	56C	DSPY	FIELD	040C 55XPWR	2201 / 2	2,861,300
		6	78/79		GBC				
74145	INTERFACE DECODER/DRIVER	D-1	P DIP 16	60C	DSPY	FIELD	040C 55XPWR	19976 / 9	25,468,800
		18	77/78		GBC				
74145	INTERFACE DECODER/DRIVER	D-1	P DIP 16	60C	DSPY	FIELD	040C 55XPWR	27063 / 10	35,181,900
		18	78/79		GBC				
74147	ENCODER	D-1	P DIP 16	61C	DSPY	FIELD	040C 55XPWR	154 / 0	200,200
		31	78/79		GBC				
74148	ENCODER	D-1	P DIP 16	57C	DSPY	FIELD	040C 55XPWR	1006 / 1	1,307,800
		29	77/78		GBC				
74148	ENCODER	D-1	P DIP 16	57C	DSPY	FIELD	040C 55XPWR	678 / 0	881,400
		29	78/79		GBC				
74155	DECODER/DEMULTIPLX	D-1	P DIP 16	52C	DSPY	FIELD	040C 55XPWR	220 / 0	286,000
		15	77/78		GBC				
74155	DECODER/DEMULTIPLX	D-1	P DIP 16	52C	DSPY	FIELD	040C 55XPWR	1744 / 0	2,267,200
		15	78/79		GBC				
74156	DECODER/DEMULTIPLX	D-1	P DIP 16	52C	DSPY	FIELD	040C 55XPWR	3 / 0	3,900
		15	78/79		GBC				

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
74157	MULTIPLEXER	D-1 19	P DIP 16 77/78	54C	DSPY GBC	FIELD	040C 55XPWR	1800 / 0 2,340,000		
74157	MULTIPLEXER	D-1 19	P DIP 16 78/79	54C	DSPY GBC	FIELD	040C 55XPWR	9808 / 3 12,750,400		
74159	DECODER/DEMULTIPLX	D-1 N/R	P DIP 24 77/78	52C	DSPY GBC	FIELD	040C 55XPWR	135 / 0 175,500		
74159	DECODER/DEMULTIPLX	D-1 N/R	P DIP 24 78/79	52C	DSPY GEC	FIELD	040C 55XPWR	184 / 0 239,200		
74160	COUNTER DECADE	D-1 60	P DIP 16 77/78	68C	DSPY GBC	FIELD	040C 55XPWR	7863 / 0 10,221,900		
74160	COUNTER DECADE	D-1 60	P DIP 16 78/79	68C	DSPY GBC	FIELD	040C 55XPWR	7303 / 2 9,493,900		
74161	COUNTER BINARY	D-1 57	P DIP 16 77/77	58C	INTR GBC	CHECK OPERATE	025C	2 / 0 880		
74161	COUNTER BINARY	D-1 57	P DIP 16 77/78	68C	DSPY GBC	FIELD	040C 55XPWR	28739 / 7 37,360,700		
74161	COUNTER BINARY	D-1 57	P DIP 16 78/79	68C	DSPY GBC	FIELD	040C 55XPWR	29886 / 2 38,851,800		
74167	MULTIPLIER	D-1 44	P DIP 16 77/78	65C	DSPY GBC	FIELD	040C 55XPWR	333 / 0 432,900		
74167	MULTIPLIER	D-1 44	P DIP 16 78/79	65C	DSPY GBC	FIELD	040C 55XPWR	2936 / 0 3,816,800		
74170	REGISTER	D-1 98	P DIP 16 77/78	98C	DSPY GBC	FIELD	040C 55XPWR	13 / 0 16,900		
74170	REGISTER	D-1 98	P DIP 16 78/79	98C	DSPY GBC	FIELD	040C 55XPWR	14 / 0 18,200		
74173	FLIP-FLOP D	D-1 45	P DIP 16 77/78	63C	DSPY GBC	FIELD	040C 55XPWR	2028 / 0 2,636,400		
74173	FLIP-FLOP D	D-1 45	P DIP 16 78/79	63C	DSPY GBC	FIELD	040C 55XPWR	15680 / 2 20,384,000		
74175	FLIP-FLOP D	D-1 24	P DIP 16 77/78	54C	DSPY GBC	FIELD	040C 55XPWR	16387 / 10 21,303,100		
74175	FLIP-FLOP D	D-1 24	P DIP 16 78/79	54C	DSPY GBC	FIELD	040C 55XPWR	28610 / 3 37,193,000		
74184	CONVERTER BCD/BINARY	D-1 N/R	P DIP 16 77/78	66C	DSPY GBC	FIELD	040C 55XPWR	2791 / 0 3,628,300		
74184	CONVERTER BCD/BINARY	D-1 N/R	P DIP 16 78/79	66C	DSPY GBC	FIELD	040C 55XPWR	3972 / 4 5,163,600		
74185A	CONVERTER BINARY/BCD	D-1 N/R	P DIP 16 77/78	66C	DSPY GBC	FIELD	040C 55XPWR	3289 / 1 4,275,700		
74185A	CONVERTER BINARY/BCD	D-1 N/R	P DIP 16 78/79	66C	DSPY GBC	FIELD	040C 55XPWR	4459 / 3 5,796,700		
74190	COUNTER BCD	D-1 62	P DIP 16 77/78	70C	DSPY GBC	FIELD	040C 55XPWR	568 / 0 738,400		
74190	COUNTER BCD	D-1 62	P DIP 16 78/79	70C	DSPY GBC	FIELD	040C 55XPWR	611 / 0 794,300		

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
74191	COUNTER BINARY	D-1 60	P DIP 16: 77/78	70C	DSPY GBC	FIELD	040C 55XPWR:	5556 / 1 7,222,800:			
74191	COUNTER BINARY	D-1 60	P DIP 16: 78/79	70C	DSPY GBC	FIELD	040C 55XPWR:	6325 / 0 8,222,500:			
74194	SHIFT REG	D-1 47	P DIP 16: 77/78	58C	DSPY GBC	FIELD	040C 55XPWR:	7088 / 0 9,214,400:			
74194	SHIFT REG	D-1 47	P DIP 16: 78/79	58C	DSPY GBC	FIELD	040C 55XPWR:	9818 / 2 12,763,400:			
74195	SHIFT REG	D-1 41	P DIP 16: 77/78	58C	DSPY GBC	FIELD	040C 55XPWR:	6940 / 0 9,022,000:			
74195	SHIFT REG	D-1 41	P DIP 16: 78/79	58C	DSPY GBC	FIELD	040C 55XPWR:	16740 / 0 21,762,000:			
74196	COUNTER DECADE	D-1 39	P DIP 14: 77/78	65C	DSPY GBC	FIELD	040C 55XPWR:	40113 / 24 52,146,900:			
74196	COUNTER DECADE	D-1 39	P DIP 14: 78/79	65C	DSPY GBC	FIELD	040C 55XPWR:	54261 / 8 70,539,300:			
74197	COUNTER BINARY	D-1 34	P DIP 14: 77/78	65C	DSPY GBC	FIELD	040C 55XPWR:	4766 / 5 6,195,800:			
74197	COUNTER BINARY	D-1 34	P DIP 14: 78/79	65C	DSPY GBC	FIELD	040C 55XPWR:	4248 / 2 5,522,400:			
74221	FLIP-FLOP MONOSTABLE	D-1 16	P DIP 16: 78/79	57C	DSPY GBC	FIELD	040C 55XPWR:	1 / 0 1,300:			
7426	INTERFACE TRANSLATOR	D-1 4	P DIP 14: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR:	1184 / 0 1,539,200:			
7426	INTERFACE TRANSLATOR	D-1 4	P DIP 14: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR:	3628 / 0 4,716,400:			
74273	FLIP-FLOP D	D-1 50	P DIP 20: 77/78	65C	DSPY GBC	FIELD	040C 55XPWR:	4 / 0 5,200:			
74273	FLIP-FLOP D	D-1 50	P DIP 20: 78/79	65C	DSPY GBC	FIELD	040C 55XPWR:	1441 / 0 1,873,300:			
74279	LATCH	D-1 8	P DIP 16: 77/78	49C	DSPY GBC	FIELD	040C 55XPWR:	1491 / 0 1,938,300:			
74279	LATCH	D-1 8	P DIP 16: 78/79	49C	DSPY GBC	FIELD	040C 55XPWR:	3062 / 1 3,980,600:			
74283	ADDER FULL	D-1 36	P DIP 16: 77/78	68C	DSPY GBC	FIELD	040C 55XPWR:	96 / 0 124,800:			
74283	ADDER FULL	D-1 36	P DIP 16: 78/79	68C	DSPY GBC	FIELD	040C 55XPWR:	188 / 0 244,400:			
74290	COUNTER DECADE	D-1 37	P DIP 14: 77/78	54C	DSPY GBC	FIELD	040C 55XPWR:	55 / 0 71,500:			
74290	COUNTER DECADE	D-1 37	P DIP 14: 78/79	54C	DSPY GBC	FIELD	040C 55XPWR:	382 / 0 496,600:			
74298	MULTIPLEXER	D-1 51	P DIP 16: 77/78	58C	DSPY GBC	FIELD	040C 55XPWR:	5821 / 2 7,567,300:			
74298	MULTIPLEXER	D-1 51	P DIP 16: 78/79	58C	DSPY GBC	FIELD	040C 55XPWR:	13797 / 0 17,936,100:			

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFFF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TFST TYPE		PART HOURS			
7430	GATE	D-1	P DIP 14	27C	INTR	CHECK	025C	1 / 0	440		
		1	77/77		GBC	OPERATE					
7433	BUFFER	D-1	P DIP 14	37C	INTR	CHECK	025C	2 / 0	880		
		4	77/77		GBC	OPERATE					
7433	BUFFER	D-1	P DIP 14	52C	DSPY	FIELD	040C 55%PWR	2341 / 3	3,043,300		
		4	77/78		GBC						
7433	BUFFER	D-1	P DIP 14	52C	DSPY	FIELD	040C 55%PWR	2951 / 1	3,836,300		
		4	78/79		GBC						
74366	INTERFACE BUS DRIVER	D-1	P DIP 16	67C	DSPY	FIELD	040C 55%PWR	146 / 0	189,800		
		7	77/78		GBC						
74366	INTERFACE BUS DRIVER	D-1	P DIP 16	67C	DSPY	FIELD	040C 55%PWR	4775 / 1	6,207,500		
		7	78/79		GBC						
7437	BUFFER	D-1	P DIP 14	51C	DSPY	FIELD	040C 55%PWR	14817 / 5	10,262,100		
		4	77/78		GBC						
7437	BUFFER	D-1	P DIP 14	51C	DSPY	FIELD	040C 55%PWR	27439 / 5	35,670,700		
		4	78/79		GBC						
74390	COUNTER DECADE	D-1	P DIP 16	59C	DSPY	FIELD	040C 55%PWR	1297 / 0	1,686,100		
		60	77/78		GBC						
74390	COUNTER DECADE	D-1	P DIP 16	59C	DSPY	FIELD	040C 55%PWR	1823 / 0	2,369,900		
		60	78/79		GBC						
74393	COUNTER BINARY	D-1	P DIP 14	45C	COMP	FIELD	025C	3 / 0	30,720		
		50	76/78		GBC						
74393	COUNTER BINARY	D-1	P DIP 14	45C	COMP	FIELD	025C	12 / 0	66,528		
		50	76/78		GBC						
74393	COUNTER BINARY	D-1	P DIP 14	60C	DSPY	FIELD	040C 55%PWR	2565 / 1	3,334,500		
		50	77/78		GBC						
74393	COUNTER BINARY	D-1	P DIP 14	45C	COMP	FIELD	025C	3 / 0	8,640		
		50	78/78		GBC						
74393	COUNTER BINARY	D-1	P DIP 14	45C	COMP	FIELD	025C	12 / 0	34,560		
		50	78/78		GBC						
74393	COUNTER BINARY	D-1	P DIP 14	60C	DSPY	FIELD	040C 55%PWR	8133 / 0	10,572,900		
		50	78/79		GBC						
7445	INTERFACE DECODER/DRIVER	D-1	P DIP 16	60C	DSPY	FIELD	040C 55%PWR	585 / 0	760,500		
		18	77/78		GBC						
7445	INTERFACE DECODER/DRIVER	D-1	P DIP 16	60C	DSPY	FIELD	040C 55%PWR	5803 / 2	7,543,900		
		18	78/79		GBC						
7447A	INTERFACE DECODER/DRIVER	D-1	P DIP 16	69C	DSPY	FIELD	040C 55%PWR	4448 / 5	5,782,400		
		N/R	77/78		GBC						
7447A	INTERFACE DECODER/DRIVER	D-1	P DIP 16	69C	DSPY	FIELD	040C 55%PWR	5030 / 1	6,539,000		
		N/R	78/79		GBC						
7460	EXPANDER	D-1	P DIP 14	41C	DSPY	FIELD	040C 55%PWR	208 / 0	270,400		
		2	77/78		GBC						
7460	EXPANDER	D-1	P DIP 14	41C	DSPY	FIELD	040C 55%PWR	161 / 0	209,300		
		2	78/79		GBC						
7470	FLIP-FLOP JK	D-1	P DIP 14	47C	DSPY	FIELD	040C 55%PWR	8658 / 2	11,255,400		
		11	77/78		GBC						

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS
TTLMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
7470	FLIP-FLOP JK	D-1 11	P DIP 14: 78/79	47C	DSPY GBC	FIELD	040C 55XPWR:	12989 / 1	16,885,700
7472	FLIP-FLOP JK	D-1 8	P DIP 14: 77/78	46C	DSPY GBC	FIELD	040C 55XPWR:	12445 / 10	16,191,500
7472	FLIP-FLOP JK	D-1 8	P DIP 14: 78/79	46C	DSPY GBC	FIELD	040C 55XPWR:	15032 / 6	19,541,600
7474	FLIP-FLOP D	D-1 12	P DIP 14: 77/77	34C	INTR GBC	CHECK OPEPATE	025C	2 / 0	880
7475	LATCH BISTABLE	B-1 24	P DIP 16: 77/79	70C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	1912 / 0	52,120
7475	LATCH BISTABLE	B-1 24	P DIP 16: 77/79	70C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	3505 / 0	96,962
7480	ADDER FULL	D-1 16	P DIP 14: 77/78	51C	DSPY GBC	FIELD	040C 55XPWR:	567 / 0	737,100
7480	ADDER FULL	D-1 16	P DIP 14: 78/79	51C	DSPY GBC	FIELD	040C 55XPWR:	805 / 0	1,046,500
7482	ADDER FULL	D-1 21	P DIP 14: 77/78	58C	DSPY GBC	FIELD	040C 55XPWR:	495 / 0	643,500
7482	ADDER FULL	D-1 21	P DIP 14: 78/79	58C	DSPY GBC	FIELD	040C 55XPWR:	953 / 0	1,238,900
7483A	ADDER FULL	D-1 36	P DIP 16: 77/78	68C	DSPY GBC	FIELD	040C 55XPWR:	14877 / 7	19,340,100
7483A	ADDER FULL	D-1 36	P DIP 16: 78/79	68C	DSPY GBC	FIELD	040C 55XPWR:	9580 / 2	12,454,000
7485	COMPARATOR	D-1 31	P DIP 16: 77/78	65C	DSPY GBC	FIELD	040C 55XPWR:	1948 / 0	2,532,400
7485	COMPARATOR	D-1 31	P DIP 16: 78/79	65C	DSPY GBC	FIELD	040C 55XPWR:	4944 / 0	6,427,200
7491A	SHIFT REG	D-1 67	P DIP 14: 77/78	58C	DSPY GBC	FIELD	040C 55XPWR:	222 / 0	288,600
7491A	SHIFT REG	D-1 67	P DIP 14: 78/79	58C	DSPY GBC	FIELD	040C 55XPWR:	174 / 0	226,200
7492A	COUNTER BINARY	D-1 26	P DIP 14: 77/78	54C	DSPY GBC	FIELD	040C 55XPWR:	8128 / 2	10,566,400
7492A	COUNTER BINARY	D-1 26	P DIP 14: 78/79	54C	DSPY GBC	FIELD	040C 55XPWR:	7183 / 1	9,337,900
7494	SHIFT REG	D-1 48	P DIP 16: 77/78	56C	DSPY GBC	FIELD	040C 55XPWR:	3672 / 3	4,773,600
7494	SHIFT REG	D-1 48	P DIP 16: 78/79	56C	DSPY GBC	FIELD	040C 55XPWR:	7440 / 0	9,672,000
7495A	SHIFT REG	D-1 37	P DIP 14: 77/78	60C	DSPY GBC	FIELD	040C 55XPWR:	6565 / 0	8,534,500
7495A	SHIFT REG	D-1 37	P DIP 14: 78/79	60C	DSPY GBC	FIELD	040C 55XPWR:	8811 / 3	11,454,300
7497	MULTIPLIER BINARY	D-1 54	P DIP 16: 77/78	72C	DSPY GBC	FIELD	040C 55XPWR:	1915 / 2	2,489,500

DIGITAL DEVICE DATA

TEXAS INSTRUMENTS		:MANUFACTURER				RELIABILITY ANALYSIS CENTER					
TTL		:OPERATIONAL TYPE									
: PART NO. :	: DEVICE FUNCTION :	: SCRN. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MFLF REPORT NO. : /QTY FAILED :		
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	:	: PART HOURS :		
: 7497 :	: MULTIPLIER :	: D-1 :	: P DIP 16 :	: 72C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 5761 / 14 :	: 7,489,300 :		
:	: BINARY :	: 54 :	: 78/79 :	:	: GBC :	:	:	: 7,489,300 :	:		

VARIOUS		:MANUFACTURER				RELIABILITY ANALYSIS CENTER					
TTL		:OPERATIONAL TYPE									
: PART NO. :	: DEVICE FUNCTION :	: SCRN. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MFLF REPORT NO. : /QTY FAILED :		
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	:	: PART HOURS :		
:	: ADDER :	: B-1/JB :	: H DIP 16 :	: 53C :	: RADR :	: FIELD :	: 025C :	: 329 / 0 :	:		
:	: FULL :	: 36 :	: 77/79 :	:	: GF :	:	:	: 4,500,720 :	:		
:	: ADDER :	: B-1/JB :	: H DIP 16 :	: 53C :	: RADR :	: FIELD :	: 025C :	: 5 / 0 :	:		
:	: FULL :	: 36 :	: 77/79 :	:	: GF :	:	:	: 68,400 :	:		
:	: ADDER :	: B-1/JB :	: H DIP 16 :	: 53C :	: RADR :	: FIELD :	: 025C :	: 195 / 0 :	:		
:	: FULL :	: 36 :	: 77/79 :	:	: GF :	:	:	: 2,667,600 :	:		
:	: ADDER :	: B-1/JB :	: H DIP 16 :	: 53C :	: RADR :	: FIELD :	: 025C :	: 195 / 0 :	:		
:	: FULL :	: 36 :	: 79/79 :	:	: GF :	:	:	: 842,400 :	:		
:	: ADDER :	: B-1/JB :	: H DIP 16 :	: 53C :	: RADR :	: FIELD :	: 025C :	: 329 / 0 :	:		
:	: FULL :	: 36 :	: 79/79 :	:	: GF :	:	:	: 1,421,280 :	:		
:	: ADDER :	: B-1/JB :	: H DIP 16 :	: 53C :	: RADR :	: FIELD :	: 025C :	: 7 / 0 :	:		
:	: FULL :	: 36 :	: 79/79 :	:	: GF :	:	:	: 30,240 :	:		
:	: ADDER :	: B-1/JB :	: H DIP 16 :	: 53C :	: RADR :	: FIELD :	: 025C :	: 5 / 0 :	:		
:	: FULL :	: 36 :	: 79/79 :	:	: GF :	:	:	: 21,600 :	:		
:	: BUFFER :	: B-1/JB :	: H DIP 16 :	: 54C :	: RADR :	: FIELD :	: 025C :	: 611 / 0 :	:		
:	:	: 7 :	: 77/79 :	:	: GF :	:	:	: 8,358,480 :	:		
:	: BUFFER :	: B-1/JB :	: H DIP 16 :	: 54C :	: RADR :	: FIELD :	: 025C :	: 611 / 0 :	:		
:	:	: 7 :	: 79/79 :	:	: GF :	:	:	: 2,639,520 :	:		
:	: BUFFER :	: B-1/JB :	: H DIP 16 :	: 54C :	: RADR :	: FIELD :	: 025C :	: 60 / 0 :	:		
:	:	: 8 :	: 77/79 :	:	: GF :	:	:	: 820,800 :	:		
:	: BUFFER :	: B-1/JB :	: H DIP 16 :	: 54C :	: RADR :	: FIELD :	: 025C :	: 60 / 0 :	:		
:	:	: 8 :	: 79/79 :	:	: GF :	:	:	: 259,200 :	:		
:	: FLIP-FLOP MONOSTABLE :	: D-1 :	: P DIP 16 :	: 57C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 41328 / 3 :	:		
:	:	: 14 :	: 77/78 :	:	: GBC :	:	:	: 53,726,400 :	:		
:	: FLIP-FLOP MONOSTABLE :	: D-1 :	: P DIP 16 :	: 57C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 33398 / 2 :	:		
:	:	: 14 :	: 78/79 :	:	: GBC :	:	:	: 43,417,400 :	:		
: 100 :	: GATE :	: C-1 :	: H FPK 14 :	: 71C :	: RADR :	: FIELD :	:	: 132 / 3 :	: 2174 / 2 :		
:	:	: 2 :	: 75/78 :	:	: AUF :	:	:	: 148,080 :	:		
:	:	:	:	:	:	:	:	:	: 2175 / 1 :		
: 10105 :	: GATE :	: D-1 :	: P DIP 16 :	: 48C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 16286 / 2 :	:		
:	:	: 3 :	: 77/78 :	:	: GBC :	:	:	: 21,171,800 :	:		
: 10105 :	: GATE :	: D-1 :	: P DIP 16 :	: 48C :	: DSPY :	: FIELD :	: 040C 55XPWR :	: 27212 / 2 :	:		
:	:	: 3 :	: 78/79 :	:	: GBC :	:	:	: 35,375,600 :	:		

DIGITAL DEVICE DATA

VARIOUS TTL		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MPEP REPORT NO. /QTY FAILED :	
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:	
: 106 :	: GATE :	: B-2 4 :	: H FPK 14: 75/78 :	: 35C :	: COMM GT :	: FIELD :	: 025C :	: 9 / 0 20,919 :	:	
: 106 :	: GATE :	: C-1 4 :	: H FPK 14: 75/78 :	: 74C :	: RADR AUF :	: FIELD :	:	: 33 / 2 36,630 :	: 2176/ 1 2177/ 1 :	
: 26365 :	: COUNTER DECADE :	: D-1 N/R :	: P DIP 8: 77/78 :	: 50C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR :	: 15636 / 2 20,326,800 :	:	
: 26365 :	: COUNTER DECADE :	: D-1 N/P :	: P DIP 8: 78/79 :	: 50C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR :	: 14170 / 11 18,421,000 :	:	
: 3002/8885 :	: GATE :	: D-1 4 :	: P DIP 14: 77/78 :	: 53C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR :	: 888 / 0 1,154,400 :	:	
: 3002/8885 :	: GATE :	: D-1 4 :	: P DIP 14: 78/79 :	: 53C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR :	: 1355 / 0 1,761,500 :	:	
: 5400 :	: GATE :	: J-B 4 :	: H FPK 14: 77/77 :	: 82C :	: NAVG AI :	: RELDEM TCVPC :	: -054C 072C 43CY 2 60HZ :	: 1 / 0 627 :	:	
: 5400 :	: GATE :	: J-B 4 :	: H DIP 14: 77/77 :	: 82C :	: NAVG AI :	: RELDEM TCVPC :	: -054C 072C 43CY 2 60HZ :	: 1 / 0 627 :	:	
: 5400 :	: GATE :	: J-B 4 :	: H DIP 14: 77/77 :	:	: RADR AIU :	: RELDEM OPERATE :	:	: 2585 / 0 83,263 :	:	
: 5400 :	: GATE :	: J-B 4 :	: H DIP 14: 76/77 :	: 81C :	: RADR AU :	: RELDEM TCVPC :	: -054C 071C 6CY 2. 27HZ :	: 6061 / 0 1,266,749 :	:	
: 5400 :	: GATE :	: J-B 4 :	: H DIP 14: 78/78 :	: 29C :	: COMP GT :	: RELDEM :	: 025C :	: 201 / 0 70,651 :	:	
: 5400 :	: GATE :	: J-B 4 :	: H FPK 14: 75/78 :	: 60C :	: RADR AIF :	: FIELD :	:	: 198 / 0 225,720 :	:	
: 5400 :	: GATE :	: J-B 4 :	: H FPK 14: 75/78 :	: 60C :	: PROC AIF :	: FIELD :	:	: 297 / 0 338,580 :	:	
: 5400 :	: GATE :	: J-B 4 :	: H FPK 14: 75/78 :	: 75C :	: RADR AUF :	: FIELD :	:	: 2442 / 0 2,783,880 :	:	
: 5400 :	: GATE :	: B-2/N 4 :	: H FPK 14: 75/78 :	: 60C :	: RADR AIF :	: FIELD :	:	: 20 / 0 1,505 :	:	
: 5400 :	: GATE :	: B-2/N 4 :	: H FPK 14: 75/78 :	: 60C :	: RADR AIF :	: FIELD :	:	: 26 / 0 4,287 :	:	
: 5400 :	: GATE :	: B-2/N 4 :	: H DIP 14: 75/78 :	: 75C :	: RADR AUF :	: FIELD :	:	: 272 / 0 32,088 :	:	
: 5400 :	: GATE :	: B-2/N 4 :	: H DIP 14: 75/78 :	: 75C :	: RADR AUF :	: FIELD :	:	: 225 / 0 27,210 :	:	
: 5400 :	: GATE :	: B-2/N 4 :	: H DIP 14: 75/78 :	: 75C :	: RADR AUF :	: FIELD :	:	: 116 / 0 27,124 :	:	
: 5400 :	: GATE :	: B-2/N 4 :	: H DIP 14: 75/78 :	: 75C :	: RADR AUF :	: FIELD :	:	: 32 / 0 64 :	:	
: 5400 :	: GATE :	: B-2/N 4 :	: H DIP 14: 75/78 :	: 75C :	: RADR AUF :	: FIELD :	:	: 1085 / 1 200,690 :	: 2319/ 1 :	
: 5400 :	: GATE :	: B-2/N 4 :	: H DIP 14: 75/78 :	: 75C :	: RADR AUF :	: FIELD :	:	: 1071 / 2 109,368 :	: 2320/ 2 :	

DIGITAL DEVICE DATA

VARIOUS
TTL:MANUFACTURER
:OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MFLF REPORT NO. /QTY FAILED :
: : :	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	: : :	: APPL. ENV. :	: TEST TYPE :	: : :	: PART HOURS :	: : :
: 5400 :	: GATE :	: B-2/N :	: H DIP 14: 75/78 :	: 75C :	: RADR :	: FIELD :	: : :	: 4495 / 0 :	: : :
: : :	: : :	: 4 :	: : :	: : :	: AUF :	: : :	: : :	: 971,210: :	: : :
: 5400 :	: GATE :	: B-2/N :	: H DIP 14: 75/78 :	: 75C :	: RADR :	: FIELD :	: : :	: 87 / 0 :	: : :
: : :	: : :	: 4 :	: : :	: : :	: AUF :	: : :	: : :	: 9,942: :	: : :
: 5400 :	: GATE :	: B-2/N :	: H DIP 14: 75/78 :	: 75C :	: RADR :	: FIELD :	: : :	: 3 / 0 :	: : :
: : :	: : :	: 4 :	: : :	: : :	: AUF :	: : :	: : :	: 861: :	: : :
: 5400 :	: GATE :	: B-2/N :	: H DIP 14: 75/78 :	: 75C :	: RADR :	: FIELD :	: : :	: 14 / 0 :	: : :
: : :	: : :	: 4 :	: : :	: : :	: AUF :	: : :	: : :	: 436: :	: : :
: 5400 :	: GATE :	: B-2/N :	: H DIP 14: 75/78 :	: 75C :	: RADR :	: FIELD :	: : :	: 222 / 0 :	: : :
: : :	: : :	: 4 :	: : :	: : :	: AUF :	: : :	: : :	: 20,868: :	: : :
: 5400 :	: GATE :	: B-2/N :	: H DIP 14: 75/78 :	: 75C :	: RADR :	: FIELD :	: : :	: 351 / 0 :	: : :
: : :	: : :	: 4 :	: : :	: : :	: AUF :	: : :	: : :	: 72,540: :	: : :
: 5400 :	: GATE :	: B-2/N :	: H DIP 14: 75/78 :	: 75C :	: RADR :	: FIELD :	: : :	: 15 / 0 :	: : :
: : :	: : :	: 4 :	: : :	: : :	: AUF :	: : :	: : :	: 15: :	: : :
: 5400 :	: GATE :	: B-1/JB: :	: H DIP 14: 77/79 :	: 29C :	: RADR :	: FIELD :	: 025C :	: 125 / 0 :	: : :
: : :	: : :	: 4 :	: : :	: : :	: GF :	: : :	: : :	: 1,710,000: :	: : :
: 5400 :	: GATE :	: B-1/JB: :	: H DIP 14: 77/79 :	: 29C :	: RADR :	: FIELD :	: 025C :	: 13 / 0 :	: : :
: : :	: : :	: 4 :	: : :	: : :	: GF :	: : :	: : :	: 177,840: :	: : :
: 5400 :	: GATE :	: B-1/JB: :	: H DIP 14: 77/79 :	: 29C :	: RADR :	: FIELD :	: 025C :	: 42 / 0 :	: : :
: : :	: : :	: 4 :	: : :	: : :	: GF :	: : :	: : :	: 574,560: :	: : :
: 5400 :	: GATE :	: B-1/JB: :	: H DIP 14: 77/79 :	: 29C :	: RADR :	: FIELD :	: 025C :	: 83 / 0 :	: : :
: : :	: : :	: 4 :	: : :	: : :	: GF :	: : :	: : :	: 1,135,440: :	: : :
: 5400 :	: GATE :	: B-1/JB: :	: H DIP 14: 77/79 :	: 29C :	: RADR :	: FIELD :	: 025C :	: 6 / 0 :	: : :
: : :	: : :	: 4 :	: : :	: : :	: GF :	: : :	: : :	: 82,080: :	: : :
: 5400 :	: GATE :	: B-1/JB: :	: H DIP 14: 77/79 :	: 29C :	: RADR :	: FIELD :	: 025C :	: 55 / 1 :	: : :
: : :	: : :	: 4 :	: : :	: : :	: GF :	: : :	: : :	: 752,400: :	: : :
: 5400 :	: GATE :	: B-1/JB: :	: H DIP 14: 79/79 :	: 29C :	: RADR :	: FIELD :	: 025C :	: 6 / 0 :	: : :
: : :	: : :	: 4 :	: : :	: : :	: GF :	: : :	: : :	: 25,920: :	: : :
: 5400 :	: GATE :	: B-1/JB: :	: H DIP 14: 79/79 :	: 29C :	: RADR :	: FIELD :	: 025C :	: 55 / 0 :	: : :
: : :	: : :	: 4 :	: : :	: : :	: GF :	: : :	: : :	: 237,600: :	: : :
: 5400 :	: GATE :	: B-1/JB: :	: H DIP 14: 79/79 :	: 29C :	: RADR :	: FIELD :	: 025C :	: 125 / 0 :	: : :
: : :	: : :	: 4 :	: : :	: : :	: GF :	: : :	: : :	: 540,000: :	: : :
: 5400 :	: GATE :	: B-1/JB: :	: H DIP 14: 79/79 :	: 29C :	: RADR :	: FIELD :	: 025C :	: 13 / 0 :	: : :
: : :	: : :	: 4 :	: : :	: : :	: GF :	: : :	: : :	: 56,160: :	: : :
: 5400 :	: GATE :	: B-1/JB: :	: H DIP 14: 79/79 :	: 29C :	: RADR :	: FIELD :	: 025C :	: 42 / 0 :	: : :
: : :	: : :	: 4 :	: : :	: : :	: GF :	: : :	: : :	: 181,440: :	: : :
: 5400 :	: GATE :	: B-1/JB: :	: H DIP 14: 79/79 :	: 29C :	: RADR :	: FIELD :	: 025C :	: 83 / 0 :	: : :
: : :	: : :	: 4 :	: : :	: : :	: GF :	: : :	: : :	: 358,560: :	: : :
: 5400 :	: GATE :	: B-1 :	: H FPK 14: 75/78 :	: 75C :	: COMP :	: FIELD :	: : :	: 3300 / 0 :	: : :
: : :	: : :	: 4 :	: : :	: : :	: AUF :	: : :	: : :	: 3,762,000: :	: : :
: 5400 :	: GATE :	: B-1 :	: H FPK 14: 75/78 :	: 75C :	: COMP :	: FIELD :	: : :	: 1089 / 0 :	: : :
: : :	: : :	: 4 :	: : :	: : :	: AUF :	: : :	: : :	: 1,241,460: :	: : :
: 5400 :	: GATE :	: B-1 :	: H FPK 14: 75/78 :	: 75C :	: NAVG :	: FIELD :	: : :	: 660 / 0 :	: : :
: : :	: : :	: 4 :	: : :	: : :	: AUF :	: : :	: : :	: 752,400: :	: : :
: 5400 :	: GATE :	: B-1 :	: H FPK 14: 75/78 :	: 75C :	: NAVG :	: FIELD :	: : :	: 594 / 0 :	: : :
: : :	: : :	: 4 :	: : :	: : :	: AUF :	: : :	: : :	: 677,160: :	: : :

DIGITAL DEVICE DATA

VARIOUS
TTLMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MTBF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
5400	GATE	B-1 4	H DIP 14: 75/78	75C	COMP AUF	FIELD		1551 / 0 1,768,140	
5400	GATE	B-2 4	H FPK 14: 77/77	75C	RADR AIU	RELDEN OPERATE		40 / 0 1,288	
5400	GATE	C-1 4	H FPK 14: 75/78	75C	RADR AUF	FIELD		561 / 3 637,290	2178/ 1
								2179/ 1	
								2180/ 1	
5400	GATE	C-1 4	H FPK 14: 75/78	75C	RADR AUF	FIELD		10560 / 1 12,037,590	2181/ 1
5400	GATE	C-1 4	H FPK 14: 75/78	75C	RADR AUF	FIELD		7194 / 2 8,199,540	2182/ 2
5400	GATE	C-1 4	H FPK 14: 75/78	75C	RADR AUF	FIELD		198 / 0 225,720	
5400	GATE	D 4	H DIP 14: 77/78	44C	DSPY GBC	FIELD	040C 55XPWR	336 / 0 436,800	
5400	GATE	D 4	H DIP 14: 78/79	44C	DSPY GBC	FIELD	040C 55XPWR	244 / 0 317,200	
5400	GATE	D 4	H DIP 14: 77/78	29C	COMM GF	FIELD	025C	N/R / 0 314,750	
5400	GATE	D 4	H DIP 14: 79/79	29C	COMM GF	FIELD	025C	N/R / 0 1,781,130	
5401	GATE	J-B 4	H FPK 14: 75/78	60C	PROC AIF	FIELD		33 / 0 75,240	
5401	GATE	J-B 4	H FPK 14: 75/78	75C	RADR AUF	FIELD		660 / 0 752,400	
5401	GATE	B-2/N 4	H DIP 14: 75/78	75C	RADR AUF	FIELD		391 / 0 39,928	
5401	GATE	B-2/N 4	H DIP 14: 75/78	75C	RADR AUF	FIELD		3007 / 0 649,706	
5401	GATE	B-2/N 4	H DIP 14: 75/78	75C	RADR AUF	FIELD		66 / 0 6,204	
5401	GATE	B-1/JB 4	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	96 / 0 1,313,280	
5401	GATE	B-1/JB 4	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	96 / 0 414,720	
5401	GATE	B-1 4	H FPK 14: 75/78	75C	COMP AUF	FIELD		1518 / 0 1,730,520	
5401	GATE	B-1 4	H FPK 14: 75/78	75C	NAVG AUF	FIELD		99 / 0 112,860	
5401	GATE	B-1 4	H FPK 14: 75/78	75C	NAVG AUF	FIELD		264 / 0 300,960	
5401	GATE	C-1 4	H FPK 14: 75/78	75C	RADR AUF	FIELD		99 / 0 112,860	

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE					RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	IEEE REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
5402	GATE	J-B 4	H DIP 14 76/77	81C	RADR AU	RELDEN TCVPC	-054C 071C 6CY 2. 27Hz	4180 / 0 200,640			
5402	GATE	J-B 4	H DIP 14 78/78	31C	COMP GT	RFLDEM	025C	96 / 0 33,744			
5402	GATE	J-B 4	H FPK 14 75/78	62C	PROC AIF	FIELD		363 / 0 413,820			
5402	GATE	B-2/N 4	H DIP 14 75/78	77C	RADR AUF	FIELD		15 / 0 2,556			
5402	GATE	B-2/N 4	H DIP 14 75/78	77C	RADR AUF	FIELD		29 / 0 6,781			
5402	GATE	B-2/N 4	H DIP 14 75/78	77C	RADR AUF	FIELD		31 / 0 5,734			
5402	GATE	B-2/N 4	H DIP 14 75/78	77C	RADR AUF	FIELD		119 / 0 12,152			
5402	GATE	B-2/N 4	H DIP 14 75/78	77C	RADR AUF	FIELD		81 / 0 16,740			
5402	GATE	B-2/N 4	H DIP 14 75/78	77C	RADR AUF	FIELD		1 / 0 1			
5402	GATE	B-1/JB 4	H DIP 14 77/79	31C	RADR GF	FIELD	025C	1 / 0 13,680			
5402	GATE	B-1/JB 4	H DIP 14 77/79	31C	RADR GF	FIELD	025C	23 / 0 314,640			
5402	GATE	B-1/JB 4	H DIP 14 77/79	31C	RADR GF	FIELD	025C	54 / 0 738,720			
5402	GATE	B-1/JB 4	H DIP 14 77/79	31C	RADR GF	FIELD	025C	5 / 0 68,400			
5402	GATE	B-1/JB 4	H DIP 14 79/79	31C	RADR GF	FIELD	025C	5 / 0 21,600			
5402	GATE	B-1/JB 4	H DIP 14 79/79	31C	RADR GF	FIELD	025C	1 / 0 4,320			
5402	GATE	B-1/JB 4	H DIP 14 79/79	31C	RADR GF	FIELD	025C	23 / 0 99,360			
5402	GATE	B-1/JB 4	H DIP 14 79/79	31C	RADR GF	FIELD	025C	54 / 0 233,280			
5402	GATE	B-1 4	H DIP 14 75/78	62C	NAVG AIF	FIELD		198 / 0 225,720			
5402	GATE	B-1 4	H DIP 14 75/78	77C	COMP AUF	FIELD		627 / 0 714,780			
5402	GATE	C-1 4	H FPK 14 75/78	77C	RADR AUF	FIELD		132 / 0 150,480			
5402	GATE	C-1 4	H FPK 14 75/78	77C	RADR AUF	FIELD		3300 / 0 3,762,000			
5402	GATE	C-1 4	H FPK 14 75/78	77C	RADR AUF	FIELD		165 / 0 188,100			
5402	GATE	C-1 4	H FPK 14 75/78	77C	RADR AUF	FIELD		33 / 0 37,620			

DIGITAL DEVICE DATA

VARIOUS
TTIMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO.: /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
5402	GATE	D	H DIP 14: 77/78	31C	COMM GF	FIELD	025C	N/R / 0	125,900
5402	GATE	D	H DIP 14: 79/79	31C	COMM GF	FIELD	025C	N/R / 0	712,452
5403	GATE	J-B	H DIP 14: 77/77		RADR AIU	RELDEN OPERATE		325 / 0	10,468
5403	GATE	J-E	H DIP 14: 78/78	29C	COMP GT	RELDEN	025C	18 / 0	6,327
5404	INVERTER	J-B	H DIP 14: 77/77	82C	NAVC AI	RELDEN TCVPC	-054C 072C 43CY 2 60HZ	7 / 0	4,387
5404	INVERTER	J-B	H DIP 14: 77/77		RADR AIU	RELDEN OPERATE		4290 / 0	138,181
5404	INVERTER	J-B	H DIP 14: 76/77	81C	RADR AU	RELDEN TCVPC	-054C 071C 6CY 2. 27HZ	2090 / 0	100,320
5404	INVERTER	J-B	H DIP 14: 78/78	31C	COMP GT	RELDEN	025C	114 / 0	40,071
5404	INVERTER	J-B	H FPK 14: 75/78	63C	RADR AIF	FIELD		231 / 1	262,860
5404	INVERTER	J-B	H FPK 14: 75/78	63C	PROC AIF	FIELD		297 / 0	338,580
5404	INVERTER	J-B	H FPK 14: 75/78	78C	RADR AUF	FIELD		2244 / 1	2,557,320
5404	INVERTER	E-2/N	H DIP 14: 76/77	81C	RADR AU	RELDEN TCVPC	-054C 071C 6CY 2. 27HZ	1881 / 1	2316/ 1 90,288
5404	INVERTER	B-1/JB	H DIP 14: 76/77	63C	COMM AIF	FIELD		15 / 0	10,227
5404	INVERTER	B-1/JB	H DIP 14: 76/77	63C	COMM AIF	FIELD		14 / 0	7,056
5404	INVERTER	B-2/N	H DIP 14: 75/78	78C	RADR AUF	FIELD		15 / 0	2,556
5404	INVERTER	B-1/JB	H DIP 14: 77/79	31C	RADR GF	FIELD	025C	90 / 0	1,231,200
5404	INVERTER	B-1/JB	H DIP 14: 77/79	31C	RADR GF	FIELD	025C	26 / 1	355,680
5404	INVERTER	B-1/JB	H DIP 14: 77/79	31C	RADR GF	FIELD	025C	88 / 0	1,203,840
5404	INVERTER	B-1/JB	H DIP 14: 77/79	31C	RADR GF	FIELD	025C	116 / 0	1,586,880
5404	INVERTER	B-1/JB	H DIP 14: 77/79	31C	RADR GF	FIELD	025C	8 / 0	109,440
5404	INVERTER	B-1/JB	H DIP 14: 77/79	31C	RADR GF	FIELD	025C	325 / 1	4,446,000
5404	INVERTER	B-1/JB	H DIP 14: 79/79	31C	RADR GF	FIELD	025C	8 / 0	34,560
5404	INVERTER	B-1/JB	H DIP 14: 79/79	31C	RADR GF	FIELD	025C	325 / 0	1,404,000

DIGITAL DEVICE DATA

RELIABILITY ANALYSIS CENTER

VARIOUS
TTLMANUFACTURER
OPERATIONAL TYPE

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO.: /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
5404	INVERTER	B-1/JB: 6	H DIP 14: 79/79	31C	RADR GF	FIELD	025C	90 / 0 388,800:	
5404	INVERTER	B-1/JB: 6	H DIP 14: 79/79	31C	RADR GF	FIELD	025C	26 / 0 112,320:	
5404	INVERTER	B-1/JB: 6	H DIP 14: 79/79	31C	RADR GF	FIELD	025C	88 / 0 380,160:	
5404	INVERTER	B-1/JB: 6	H DIP 14: 79/79	31C	RADR GF	FIELD	025C	116 / 0 501,120:	
5404	INVERTER	B-1 6	H DIP 14: 75/78	61C	NAVG AIF	FIELD		132 / 0 150,480:	
5404	INVERTER	B-1 6	H DIP 14: 76/77	61C	COMM AIF	FIELD		15 / 0 10,227:	
5404	INVERTER	B-1 6	H DIP 14: 76/77	61C	COMM AIF	FIELD		28 / 0 14,112:	
5404	INVERTER	B-1 6	H DIP 14: 76/77	61C	COMM AIF	FIELD		19 / 0 19,331:	
5404	INVERTER	B-1 6	H FPK 14: 75/78	78C	COMP AUF	FIELD		3234 / 0 2,686,760:	
5404	INVERTER	B-1 6	H FPK 14: 75/78	78C	NAVG AUF	FIELD		363 / 0 413,820:	
5404	INVERTER	B-1 6	H FPK 14: 75/78	78C	NAVG AUF	FIELD		231 / 0 263,340:	
5404	INVERTER	B-1 6	H DIP 14: 75/78	78C	COMP AUF	FIELD		627 / 0 714,780:	
5404	INVERTER	C-1 6	H FPK 14: 75/78	78C	RADR AUF	FIELD		99 / 0 112,860:	
5404	INVERTER	C-1 6	H FPK 14: 75/78	78C	RADR AUF	FIELD		8712 / 0 9,931,680:	
5404	INVERTER	C-1 6	H FPK 14: 75/78	78C	RADR AUF	FIELD		5280 / 1 6,020,070:	2183/ 1
5404	INVERTER	C-1 6	H FPK 14: 75/78	78C	RADR AUF	FIELD		33 / 0 37,620:	
5404	INVERTER	D 6	H DIP 14: 77/78	31C	COMM GF	FIELD	025C	N/R / 0 62,950:	
5404	INVERTER	D 6	H DIP 14: 79/79	31C	COMM GF	FIELD	025C	N/R / 0 356,226:	
5405	INVERTER	J-B 6	H DIP 14: 77/77		RADR AIU	RELDEN OPERATE		40 / 0 1,288:	
5405	INVERTER	B-1 6	H DIP 14: 75/78	61C	NAVG AIF	FIELD		33 / 0 37,620:	
5405	INVERTER	B-1 6	H FPK 14: 75/78	78C	NAVG AUF	FIELD		66 / 0 75,240:	
5405	INVERTER	B-1 6	H DIP 14: 75/78	78C	COMP AUF	FIELD		99 / 0 112,860:	
5405	INVERTER	D 6	H DIP 14: 77/78	31C	COMM GF	FIELD	025C	N/R / 0 62,950:	

DIGITAL DEVICE DATA

VARIOUS
TTLMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
5405	INVERTER	D 6	H DIP 14: 79/79	31C	COMM GF	FIELD	025C	N/R / 0	356,226
5406	INTERFACE BUFFER/DRIVER	J-B 6	H FPK 14: 75/78	73C	RADR AIF	FIELD		66 / 0	75,240
5406	INTERFACE BUFFER/DRIVER	J-B 6	H FPK 14: 75/78	88C	RADR AUF	FIELD		264 / 0	300,960
5406	INTERFACE BUFFER/DRIVER	B-2/N 6	H DIP 14: 76/77	81C	RADR AU	RELDEN TCVPC	-054C 071C 6CY 2. 27HZ	1045 / 0	50,160
5406	INTERFACE BUFFER/DRIVER	B-1/JB 6	H DIP 14: 77/79	40C	RADR GF	FIELD	025C	4 / 0	54,720
5406	INTERFACE BUFFER/DRIVER	B-1/JB 6	H DIP 14: 79/79	40C	RADR GF	FIELD	025C	4 / 0	17,280
5406	INTERFACE BUFFER/DRIVER	B-1 6	H DIP 14: 75/78	86C	COMP AUF	FIELD		33 / 0	37,620
5407	INTERFACE BUFFER/DRIVER	B-1 6	H DIP 14: 75/78	86C	COMP AUF	FIELD		165 / 0	188,100
5408	GATE	J-B 4	H DIP 14: 77/77		RADR AIU	RELDEN OPERATE		1570 / 0	50,570
5408	GATE	B-1/JB 4	H DIP 14: 77/79	32C	RADR GF	FIELD	025C	5 / 0	68,400
5408	GATE	B-1/JB 4	H DIP 14: 77/79	32C	RADR GF	FIELD	025C	25 / 0	342,000
5408	GATE	B-1/JB 4	H DIP 14: 77/79	32C	RADR GF	FIELD	025C	1 / 0	13,680
5408	GATE	B-1/JB 4	H DIP 14: 77/79	32C	RADR GF	FIELD	025C	19 / 0	259,920
5408	GATE	B-1/JB 4	H DIP 14: 79/79	32C	RADR GF	FIELD	025C	5 / 0	21,600
5408	GATE	B-1/JB 4	H DIP 14: 79/79	32C	RADR GF	FIELD	025C	25 / 0	108,000
5408	GATE	B-1/JB 4	H DIP 14: 79/79	32C	RADR GF	FIELD	025C	1 / 0	4,320
5408	GATE	B-1/JB 4	H DIP 14: 79/79	32C	RADR GF	FIELD	025C	19 / 0	82,080
5409	GATE	J-B 4	H DIP 14: 77/77		RADR AIU	RELDEN OPERATE		10 / 0	322
5410	GATE	J-B 3	H DIP 14: 77/77		RADR AIU	RELDEN OPERATE		760 / 0	24,480
5410	GATE	J-B 3	H DIP 14: 76/77	81C	RADR AU	RELDEN TCVPC	-054C 071C 6CY 2. 27HZ	4807 / 2	2314/ 2 230,736
5410	GATE	J-B 3	H DIP 14: 78/78	28C	COMP GT	RELDEN	025C	57 / 0	20,036
5410	GATE	J-B 3	H FPK 14: 75/78	73C	RADR AUF	FIELD		1518 / 0	1,730,520
5410	GATE	B-2/N 3	H DIP 14: 75/78	73C	RADR AUF	FIELD		15 / 0	2,556

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEP REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
5410	GATE	B-2/N 3	H DIP 14 75/78	73C	RADR AUF	FIELD		4 / 0 8:		
5410	GATE	B-2/N 3	H DIP 14 75/78	73C	RADR AUF	FIELD		217 / 0 40,138:		
5410	GATE	B-2/N 3	H DIP 14 75/78	73C	RADR AUF	FIELD		425 / 0 43,400:		
5410	GATE	B-2/N 3	H DIP 14 75/78	73C	RADR AUF	FIELD		1178 / 0 254,524:		
5410	GATE	B-2/N 3	H DIP 14 75/78	73C	RADR AUF	FIELD		72 / 0 6,768:		
5410	GATE	B-2/N 3	H DIP 14 75/78	73C	RADR AUF	FIELD		144 / 0 29,760:		
5410	GATE	B-2/N 3	H DIP 14 75/78	73C	RADR AUF	FIELD		1 / 0 1:		
5410	GATE	B-1/JB 3	H DIP 14 77/79	28C	RADR GF	FIELD	025C	2 / 0 77,360:		
5410	GATE	B-1/JB 3	H DIP 14 77/79	28C	RADR GF	FIELD	025C	5 / 0 68,400:		
5410	GATE	B-1/JB 3	H DIP 14 77/79	28C	RADR GF	FIELD	025C	16 / 0 215,880:		
5410	GATE	B-1/JB 3	H DIP 14 77/79	28C	RADR GF	FIELD	025C	17 / 0 232,560:		
5410	GATE	B-1/JB 3	H DIP 14 77/79	28C	RADR GF	FIELD	025C	1 / 0 13,680:		
5410	GATE	B-1/JB 3	H DIP 14 77/79	28C	RADR GF	FIELD	025C	10 / 0 136,800:		
5410	GATE	B-1/JB 3	H DIP 14 79/79	28C	RADR GF	FIELD	025C	1 / 0 4,320:		
5410	GATE	B-1/JB 3	H DIP 14 79/79	28C	RADR GF	FIELD	025C	10 / 0 43,200:		
5410	GATE	B-1/JB 3	H DIP 14 79/79	28C	RADR GF	FIELD	025C	2 / 0 8,640:		
5410	GATE	B-1/JB 3	H DIP 14 79/79	28C	RADR GF	FIELD	025C	5 / 0 21,600:		
5410	GATE	B-1/JB 3	H DIP 14 79/79	28C	RADR GF	FIELD	025C	16 / 0 69,120:		
5410	GATE	B-1/JB 3	H DIP 14 79/79	28C	RADR GF	FIELD	025C	17 / 0 73,440:		
5410	GATE	B-1 3	H DIP 14 75/78	58C	NAVG AIF	FIELD		66 / 0 75,240:		
5410	GATE	B-1 3	H FPK 14 75/78	74C	COMP AUF	FIELD		1881 / 0 2,144,340:		
5410	GATE	B-1 3	H FPK 14 75/78	74C	NAVG AUF	FIELD		264 / 0 300,960:		
5410	GATE	B-1 3	H FPK 14 75/78	74C	NAVG AUF	FIELD		495 / 0 564,300:		

DIGITAL DEVICE DATA

VARIOUS
TTLMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
5410	GATE	B-1 3	H DIP 14: 75/78	74C	COMP AUF	FIELD		957 / 0 1,090,980	
5410	GATE	C-1 3	H FPK 14: 75/78	74C	RADR AUF	FIELD		66 / 0 75,240	
5410	GATE	C-1 3	H FPK 14: 75/78	74C	RADR AUF	FIELD		4653 / 0 5,304,420	
5410	GATE	C-1 3	H FPK 14: 75/78	74C	RADR AUF	FIELD		4158 / 1 4,739,640	2184/ 1
5410	GATE	C-1 3	H FPK 14: 75/78	74C	RADR AUF	FIELD		33 / 0 37,620	
5410	GATF	D 3	H DIP 14: 77/78	43C	DSFY GBC	FIELD	040C 55XPWR	168 / 0 218,400	
5410	GATE	D 3	H DIP 14: 78/79	43C	DSFY GBC	FIELD	040C 55XPWR	82 / 0 106,600	
5410	GATE	D 3	H DIP 14: 77/78	28C	COMM GF	FIELD	025C	N/R / 0 125,900	
5410	GATE	D 3	H DIP 14: 79/79	28C	COMM GF	FIELD	025C	N/R / 0 712,432	
5410/7410	GATE	NONE 3	N/R DIP 14: 77/79	28C	COMP GR	FIELD	025C	8 / 0 153,872	
5410/7410	GATE	NONE 3	N/R DIP 14: 77/79	28C	COMP GB	FIELD	025C	16 / 0 318,080	
54107	FLIP-FLOP JK	J-B 16	H DIP 14: 78/78	35C	COMP GT	RELDEN	025C	39 / 0 13,709	
54107	FLIP-FLOP JK	B-1 16	H DIP 14: 75/78	80C	COMP AUF	FIELD		66 / 0 75,240	
5411	GATE	B-1/JB 3	H DIP 14: 77/79	30C	RADR GF	FIELD	025C	14 / 0 191,520	
5411	GATE	B-1/JB 3	H DIP 14: 79/79	30C	RADR GF	FIELD	025C	14 / 0 60,480	
54121	FLIP-FLOP MONOSTABLE	J-B 8	H DIP 14: 77/77		RADR AIU	RELDEN OPERATE		335 / 0 10,790	
54121	FLIP-FLOP MONOSTABLE	B-1/JB 8	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	4 / 0 54,720	
54121	FLIP-FLOP MONOSTABLE	B-1/JB 8	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	545 / 0 7,455,600	
54121	FLIP-FLOP MONOSTABLE	B-1/JB 8	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	105 / 0 1,436,400	
54121	FLIP-FLOP MONOSTABLE	B-1/JB 8	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	10 / 0 136,800	
54121	FLIP-FLOP MONOSTABLE	B-1/JB 8	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	291 / 0 3,980,880	
54121	FLIP-FLOP MONOSTABLE	B-1/JB 8	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	98 / 0 1,340,640	
54121	FLIP-FLOP MONOSTABLE	B-1/JB 8	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	10 / 0 43,200	

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO.: /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
54121	FLIP-FLOP MONOSTABLE	B-1/JB: 8	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	291 / 0 1,257,120		
54121	FLIP-FLOP MONOSTABLE	B-1/JB: 8	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	98 / 0 423,360		
54121	FLIP-FLOP MONOSTABLE	B-1/JB: 8	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	4 / 0 17,280		
54121	FLIP-FLOP MONOSTABLE	B-1/JB: 8	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	545 / 0 2,354,400		
54121	FLIP-FLOP MONOSTABLE	B-1/JB: 8	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	105 / 0 453,600		
54121	FLIP-FLOP MONOSTABLE	B-1 8	H FPK 14: 75/78	81C	COMP AUF	FIELD		132 / 0 150,480		
54121	FLIP-FLOP MONOSTABLE	B-1 8	H DIP 14: 75/78	81C	COMP AUF	FIELD		66 / 0 75,240		
54121	FLIP-FLOP MONOSTABLE	D 8	H DIP 14: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	764 / 0 993,200		
54121	FLIP-FLOP MONOSTABLE	D 8	H DIP 14: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	1009 / 0 1,311,700		
54122	FLIP-FLOP MONOSTABLE	B-1/JB: 10	H DIP 14: 77/79	37C	RADR GF	FIELD	025C	2 / 0 27,360		
54122	FLIP-FLOP MONOSTABLE	B-1/JB: 10	H DIP 14: 77/79	37C	RADR GF	FIELD	025C	12 / 0 164,160		
54122	FLIP-FLOP MONOSTABLE	B-1/JB: 10	H DIP 14: 77/79	37C	RADR GF	FIELD	025C	10 / 0 136,800		
54122	FLIP-FLOP MONOSTABLE	B-1/JB: 10	H DIP 14: 79/79	37C	RADR GF	FIELD	025C	12 / 0 51,840		
54122	FLIP-FLOP MONOSTABLE	B-1/JB: 10	H DIP 14: 79/79	37C	RADR GF	FIELD	025C	10 / 0 43,200		
54122	FLIP-FLOP MONOSTABLE	B-1 10	H FPK 14: 75/78	67C	RADR AIF	FIELD		33 / 1 36,960	2185/ 1	
54122	FLIP-FLOP MONOSTABLE	B-1 10	H FPK 14: 75/78	82C	RADR AUF	FIELD		33 / 0 37,620		
54123	FLIP-FLOP MONOSTABLE	J-B 20	H DIP 16: 77/77	82C	NAVG AI	RELDEN TCVPC	-054C 072C 43CY 2 60HZ	6 / 0 3,760		
54123	FLIP-FLOP MONOSTABLE	J-B 20	H DIP 16: 77/77		RADR AIU	RELDEN OPERATE		25 / 0 805		
54123	FLIP-FLOP MONOSTABLE	B-1/JB: 20	H DIP 16: 77/79	46C	RADR GF	FIELD	025C	3 / 0 41,040		
54123	FLIP-FLOP MONOSTABLE	B-1/JB: 20	H DIP 16: 79/79	46C	RADR GF	FIELD	025C	3 / 0 12,960		
54123	FLIP-FLOP MONOSTABLE	B-1 20	H DIP 16: 75/78	76C	RADR AIF	FIELD		165 / 0 188,100		
54123	FLIP-FLOP MONOSTABLE	B-1 20	H DIP 16: 75/78	76C	PROC AIF	FIELD		99 / 0 112,860		

DIGITAL DEVICE DATA

VARIOUS ATT.		MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
54123	FLIP-FLOP MONOSTABLE	B-1 20	H DIP 16: 75/78	91C	RADR AUF	FIELD		198 / 0 225,720			
54125	BUFFER	B-2 4	H DIP 14: 77/77		RADR AIU	RELDEN OPERATE		380 / 0 12,236			
54126	BUFFER	B-2 4	H DIP 14: 77/77		RADR AIU	RELDEN OPERATE		7380 / 0 237,636			
5413	GATE SCHMITT TRIGGER	B-1/JB: 2	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	97 / 0 1,326,960			
5413	GATE SCHMITT TRIGGER	B-1/JB: 2	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	3 / 0 41,040			
5413	GATE SCHMITT TRIGGER	B-1/JB: 2	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	15 / 0 205,200			
5413	GATE SCHMITT TRIGGER	B-1/JB: 2	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	36 / 0 492,480			
5413	GATE SCHMITT TRIGGER	B-1/JB: 2	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	15 / 0 64,800			
5413	GATE SCHMITT TRIGGER	B-1/JB: 2	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	36 / 0 135,520			
5413	GATE SCHMITT TRIGGER	B-1/JB: 2	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	97 / 0 419,040			
5413	GATE SCHMITT TRIGGER	B-1/JB: 2	H DIP 14: 79/79	35C	PADR GF	FIELD	025C	3 / 0 12,960			
5413	GATE SCHMITT TRIGGER	B-1 2	H DIP 14: 75/78	79C	COMP AUF	FIELD		33 / 0 37,620			
5414	INVERTER SCHMITT TRIGGER	B-2 6	H DIP 14: 77/77	82C	NAVG AI	RELDEN TCVPC	-054C 072C 43CY 2 60HZ	2 / 0 1,253			
54145	INTERFACE DECODER/DRIVER	B-1/JB: 18	H DIP 16: 77/79	44C	RADR GF	FIELD	025C	5 / 0 68,400			
54145	INTERFACE DECODER/DRIVER	B-1/JB: 18	H DIP 16: 79/79	44C	RADR GF	FIELD	025C	5 / 0 21,600			
54148	ENCODER	B-2 29	H DIP 16: 77/77		RADR AIU	RELDEN OPERATE		90 / 0 2,898			
54150	MULTIPLEXER	D 26	H DIP 24: 77/78	71C	COMB AIT	FIELD		64 / 0 608,000			
54151	MULTIPLEXER	B-1 17	H DIP 16: 75/78	83C	RADR AUF	FIELD		33 / 0 37,620			
54152	MULTIPLEXER	B-2 15	H DIP 14: 75/78	38C	COMM GT	FIELD	025C	9 / 0 20,919			
54153	MULTIPLEXER	J-B 16	H DIP 16: 77/77		RADR AIU	RELDEN OPERATE		10 / 0 322			

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER			
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MEEF REPORT NO.: /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
54153	MULTIPLEXER	B-1/JB: 16	H DIP 16: 77/79	41C	RADR GF	FIELD	025C	400 / 0 5,472,000	
54153	MULTIPLEXER	B-1/JB: 16	H DIP 16: 77/79	41C	RADR GF	FIELD	025C	38 / 0 514,840	
54153	MULTIPLEXER	B-1/JB: 16	H DIP 16: 77/79	41C	RADR GF	FIELD	025C	123 / 0 1,682,640	
54153	MULTIPLEXER	B-1/JB: 16	H DIP 16: 79/79	41C	RADR GF	FIELD	025C	123 / 0 531,360	
54153	MULTIPLEXER	B-1/JB: 16	H DIP 16: 79/79	41C	RADR GF	FIELD	025C	406 / 0 1,728,000	
54153	MULTIPLEXER	B-1/JB: 16	H DIP 16: 79/79	41C	RADR GF	FIELD	025C	38 / 0 164,160	
54153	MULTIPLEXER	B-1 16	H DIP 16: 75/78	86C	RADR AUF	FIELD		99 / 0 112,860	
54153	MULTIPLEXER	B-1 16	H DIP 16: 75/78	86C	COMP AUF	FIELD		198 / 0 225,720	
54154	DECODER/DEMULTIPLX	B-1 25	H DIP 24: 75/78	85C	COMP AUF	FIELD		33 / 0 37,620	
54154	DECODER/DEMULTIPLX	B-2 25	H DIP 24: 77/77		RADR AIU	PELDEM OPERATE		15 / 0 483	
54155	DECODER/DEMULTIPLX	B-1/JB: 15	H DIP 16: 77/79	35C	RADR GF	FIELD	025C	8 / 0 109,440	
54155	DECODER/DEMULTIPLX	B-1/JB: 15	H DIP 16: 77/79	35C	RADR GF	FIELD	025C	3 / 0 41,040	
54155	DECODER/DEMULTIPLX	B-1/JB: 15	H DIP 16: 79/79	35C	RADR GF	FIELD	025C	3 / 0 12,960	
54155	DECODER/DEMULTIPLX	B-1/JB: 15	H DIP 16: 79/79	35C	RADR GF	FIELD	025C	8 / 0 34,560	
54155	DECODER/DEMULTIPLX	B-1 15	H DIP 16: 75/78	81C	RADR AUF	FIELD		264 / 0 300,960	
54155	DECODER/DEMULTIPLX	C-1 15	H FPK 16: 75/78	81C	RADR AUF	FIELD		792 / 1 902,610	2186/ 1
54155	DECODER/DEMULTIPLX	D 15	H FPK 16: 77/79	35C	COMP GB	FIELD	025C	2 / 0 39,760	
54157	MULTIPLEXER	B-1/JB: 19	H DIP 16: 77/79	39C	RADR GF	FIELD	025C	4 / 0 54,720	
54157	MULTIPLEXER	B-1/JB: 19	H DIP 16: 77/79	39C	RADR GF	FIELD	025C	228 / 0 3,119,040	
54157	MULTIPLEXER	B-1/JB: 19	H DIP 16: 77/79	39C	RADR GF	FIELD	025C	2 / 0 27,360	
54157	MULTIPLEXER	B-1/JB: 19	H DIP 16: 77/79	39C	RADR GF	FIELD	025C	49 / 0 670,320	
54157	MULTIPLEXER	B-1/JB: 19	H DIP 16: 79/79	39C	RADR GF	FIELD	025C	49 / 0 211,680	
54157	MULTIPLEXER	B-1/JB: 19	H DIP 16: 79/79	39C	RADR GF	FIELD	025C	4 / 0 17,280	

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MTEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
54157	MULTIPLEXER	B-1/JB: 19	H DIP 79/79	16: 39C	RADR GF	FIELD	025C	228 / 0 984,960:		
54157	MULTIPLEXER	B-1/JB: 19	H DIP 79/79	16: 39C	RADR GF	FIELD	025C	2 / 0 8,640:		
54157	MULTIPLEXER	B-1 19	H FPK 75/78	16: 88C	RADR AUF	FIELD		858 / 0 978,120:		
54157	MULTIPLEXER	B-2 15	H DIP 77/77	16: 39C	RADR AIU	RELDEN OPERATE		4575 / 0 147,315:		
5416	INTERFACE BUFFER/DRIVER	B-2/N 6	H DIP 76/77	14: 81C	RADR AU	RELDEN TCVPC	-054C 071C 6CY 2. 27HZ	418 / 0 20,064:		
5416	INTERFACE BUFFER/DRIVER	D 6	H DIP 77/78	14: 55C	DSPY GBC	FIELD	040C 55XPWR:	59 / 0 76,700:		
5416	INTERFACE BUFFER/DRIVER	D 6	H DIP 78/79	14: 55C	DSPY GBC	FIELD	040C 55XPWR:	2 / 0 2,600:		
54160	COUNTER DECADE	B-1/JB: 60	H DIP 77/79	16: 52C	RADR GF	FIELD	025C	4 / 0 54,720:		
54160	COUNTER DECADE	B-1/JB: 60	H DIP 77/79	16: 52C	RADR GF	FIELD	025C	13 / 0 177,840:		
54160	COUNTER DECADE	B-1/JB: 60	H DIP 79/79	16: 52C	RADR GF	FIELD	025C	13 / 0 56,160:		
54160	COUNTER DECADE	B-1/JB: 60	H DIP 79/79	16: 52C	RADR GF	FIELD	025C	4 / 0 17,280:		
54161	COUNTER BINARY	B-1/JB: 57	H DIP 77/79	16: 52C	RADR GF	FIELD	025C	2 / 0 27,360:		
54161	COUNTER BINARY	B-1/JB: 57	H DIP 77/79	16: 52C	RADR GF	FIELD	025C	8 / 0 109,440:		
54161	COUNTER BINARY	B-1/JB: 57	H DIP 77/79	16: 52C	RADR GF	FIELD	025C	83 / 0 1,135,440:		
54161	COUNTER BINARY	B-1/JB: 57	H DIP 77/79	16: 52C	RADR GF	FIELD	025C	56 / 0 766,080:		
54161	COUNTER BINARY	B-1/JB: 57	H DIP 77/79	16: 52C	RADR GF	FIELD	025C	65 / 0 889,200:		
54161	COUNTER BINARY	B-1/JB: 57	H DIP 79/79	16: 52C	RADR GF	FIELD	025C	65 / 0 280,800:		
54161	COUNTER BINARY	B-1/JB: 57	H DIP 79/79	16: 52C	RADR GF	FIELD	025C	2 / 0 8,640:		
54161	COUNTER BINARY	B-1/JB: 57	H DIP 79/79	16: 52C	RADR GF	FIELD	025C	8 / 0 34,560:		
54161	COUNTER BINARY	B-1/JB: 57	H DIP 79/79	16: 52C	RADR GF	FIELD	025C	83 / 0 358,560:		
54161	COUNTER BINARY	B-1/JB: 57	H DIP 79/79	16: 52C	RADR GF	FIELD	025C	56 / 0 241,920:		
54161	COUNTER BINARY	B-1 57	H DIP 75/78	16: 84C	RADR AIF	FIELD		99 / 0 112,860:		
54161	COUNTER BINARY	B-1 57	H FPK 75/78	16: 91C	NAVG AUF	FIELD		198 / 0 255,720:		

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE					RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPPF REPORT NO. /OTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
54161	COUNTER BINARY	B-1 57	H FPK 16: 75/78	91C	NAVG AUF	FIELD		132 / 0 150,480			
54161	COUNTER BINARY	B-1 57	H DIP 16: 75/78	91C	RADR AUF	FIELD		132 / 0 150,480			
54163	COUNTER BINARY	B-1/JB: 58	H DIP 16: 77/79	52C	RADR GF	FIELD	025C	19 / 0 259,920			
54163	COUNTER BINARY	B-1/JB: 58	H DIP 16: 79/79	52C	RADR GF	FIELD	025C	19 / 0 82,080			
54164	SHIFT REG	B-1/JB: 36	H DIP 14: 77/79	42C	RADR GF	FIELD	025C	17 / 0 232,560			
54164	SHIFT REG	B-1/JB: 36	H DIP 14: 77/79	42C	RADR GF	FIELD	025C	8 / 0 109,440			
54164	SHIFT REG	B-1/JB: 36	H DIP 14: 79/79	42C	RADR GF	FIELD	025C	17 / 0 73,440			
54164	SHIFT REG	B-1/JB: 36	H DIP 14: 79/79	42C	RADR GF	FIELD	025C	8 / 0 34,560			
54164	SHIFT REG	B-1 36	H DIP 14: 75/78	87C	COMP AUF	FIELD		66 / 0 75,240			
54165	SHIFT REG	B-1/JB: 62	H DIP 16: 77/79	44C	RADR GF	FIELD	025C	12 / 0 164,160			
54165	SHIFT REG	B-1/JB: 62	H DIP 16: 79/79	44C	RADR GF	FIELD	025C	12 / 0 51,840			
54165	SHIFT REG	B-1 62	H DIP 16: 75/78	87C	COMP AUF	FIELD		66 / 0 75,240			
5417	INTERFACE BUFFER/DRIVER	B-1/JB: 6	H DIP 14: 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	19437 / 12 531,666	2154/ 5 2155/ 7		
5417	INTERFACE BUFFER/DRIVER	B-1/JB: 6	H DIP 14: 76/77	68C	COMM AIF	FIELD		45 / 2 30,681			
5417	INTERFACE BUFFER/DRIVER	B-1/JB: 6	H DIP 14: 76/77	68C	COMM AIF	FIELD		30 / 0 12,573			
5417	INTERFACE BUFFER/DRIVER	B-1/JB: 6	H DIP 14: 76/77	68C	COMM AIF	FIELD		42 / 0 21,168			
5417	INTERFACE BUFFER/DRIVER	B-1/JB: 6	H DIP 14: 76/77	68C	COMM AIT	FIELD		57 / 0 57,993			
5417	INTERFACE BUFFER/DRIVER	B-1/JB: 6	H DIP 14: 77/79	38C	RADR GF	FIELD	025C	1 / 0 13,680			
5417	INTERFACE BUFFER/DRIVER	B-1/JB: 6	H DIP 14: 79/79	38C	RADR GF	FIELD	025C	1 / 0 4,320			
5417	INTERFACE BUFFER/DRIVER	B-1 6	H DIP 14: 76/77	68C	COMM AIF	FIELD		45 / 0 30,681			
5417	INTERFACE BUFFER/DRIVER	B-1 6	H DIP 14: 76/77	68C	COMM AIF	FIELD		84 / 0 42,336			
5417	INTERFACE BUFFER/DRIVER	B-1 6	H DIP 14: 76/77	68C	COMM AIT	FIELD		57 / 0 57,993			

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER : OPERATIONAL TYPE			RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT. TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
54174	FLIP-FLOP	J-B	H DIP 16		RADR	RELDPM		10635 / 0	
	D	36	77/77		AIU	OPERATE		342,553	
54174	FLIP-FLOP	B-1/JB	H DIP 16	46C	RADR	FIELD	025C	10 / 0	
	D	36	77/79		GF			136,800	
54174	FLIP-FLOP	B-1/JB	H DIP 16	46C	RADR	FIELD	025C	2 / 0	
	D	36	77/79		GF			27,360	
54174	FLIP-FLOP	B-1/JB	H DIP 16	46C	RADR	FIELD	025C	10 / 0	
	D	36	79/79		GF			43,200	
54174	FLIP-FLOP	B-1/JB	H DIP 16	46C	RADR	FIELD	025C	2 / 0	
	D	36	79/79		GF			8,640	
54175	FLIP-FLOP	B-1/JB	H DIP 16	39C	RADR	FIELD	025C	10 / 0	
	D	24	77/79		GF			136,800	
54175	FLIP-FLOP	B-1/JB	H DIP 16	39C	RADR	FIELD	025C	81 / 0	
	D	24	77/79		GF			1,108,080	
54175	FLIP-FLOP	B-1/JB	H DIP 16	39C	RADR	FIELD	025C	1 / 0	
	D	24	77/79		GF			13,680	
54175	FLIP-FLOP	B-1/JB	H DIP 16	39C	RADR	FIELD	025C	310 / 0	
	D	24	77/79		GF			4,240,800	
54175	FLIP-FLOP	B-1/JB	H DIP 16	39C	RADR	FIELD	025C	1 / 0	
	D	24	79/79		GF			4,320	
54175	FLIP-FLOP	B-1/JB	H DIP 16	39C	RADR	FIELD	025C	310 / 0	
	D	24	79/79		GF			1,339,200	
54175	FLIP-FLOP	B-1/JB	H DIP 16	39C	RADR	FIELD	025C	10 / 0	
	D	24	79/79		GF			43,200	
54175	FLIP-FLOP	B-1/JB	H DIP 16	39C	RADR	FIELD	025C	81 / 0	
	D	24	79/79		GF			349,920	
54180	GENERATOR	B-1	H DIP 14	72C	NAVG	FIELD		33 / 0	
		14	75/78		ATF			37,620	
54180	GENERATOR	B-1	H FPK 14	91C	RADR	FIELD		165 / 0	
		14	75/78		AUF			188,100	
54180	GENERATOR	B-2	H DIP 14		RADR	RELDPM		375 / 0	
		14	77/77		AIU	OPERATE		12,075	
54181	LOGIC UNIT ARITHMETIC	B-1	H FPK 24	115C	COMP	FIELD		264 / 0	
		63	75/78		AUF			300,960	
54181	LOGIC UNIT ARITHMETIC	B-1	H DIP 24	115C	RADR	FIELD		264 / 0	
		63	75/78		AUF			300,960	
54181	LOGIC UNIT ARITHMETIC	C-1	H FPK 24	115C	RADR	FIELD		3861 / 1	2187/ 1
		63	75/78		AUF			4,401,270	
54182	GENERATOR	B-1	H FPK 16	90C	COMP	FIELD		66 / 0	
		19	75/78		AUF			75,240	
54182	GENERATOR	B-1	H DIP 16	90C	RADR	FIELD		33 / 0	
		19	75/78		AUF			37,620	
54191	COUNTER BINARY	B-1/JB	H DIP 16	54C	RADR	FIELD	025C	11 / 0	
		60	77/79		GF			150,480	
54191	COUNTER BINARY	B-1/JB	H DIP 16	54C	RADR	FIELD	025C	11 / 0	
		60	79/79		GF			47,520	

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER			
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	DOUPL. TYPE	DATA CLASS.	STRESS LEVEL	TESTED/ #FAILED	DEFECT REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
54192	COUNTER BCD	B-1 50	H FPK 16: 75/78	99C	RADR AUF	FIELD		99 / 0 112,860:	
54192	COUNTER BCD	D 50	H DIP 16: 77/78	54C	COMM GF	FIELD	025C	N/R / 0 188,850:	
54192	COUNTER BCD	D 50	H DIP 16: 79/79	54C	COMM GF	FIELD	025C	N/R / 0 1,068,678:	
54193	COUNTER BINARY	B-1/JB: 48	H DIP 16: 77/79	54C	RADR GF	FIELD	025C	4 / 0 54,720:	
54193	COUNTER BINARY	B-1/JB: 48	H DIP 16: 79/79	54C	RADR GF	FIELD	025C	4 / 0 17,280:	
54193	COUNTER BINARY	B-1 48	H FPK 16: 75/78	98C	COMP AUF	FIELD		627 / 0 714,780:	
54193	COUNTER BINARY	B-1 48	H FPK 16: 75/78	98C	RADR AUF	FIELD		561 / 0 639,540:	
54193/74193	COUNTER BINARY	NONE 48	N/R DIP 16: 77/79	53C	COMP GB	FIELD	025C	3 / 0 57,707:	
54193/74193	COUNTER BINARY	NONE 48	N/R DIP 16: 77/79	53C	COMP GB	FIELD	025C	6 / 0 119,280:	
54195	SHIFT REG	J-B 41	H DIP 16: 77/77		RADR AIU	RELDEN OPERATE		515 / 0 16,588:	
54195	SHIFT REG	J-B 41	H DIP 16: 78/78	43C	COMP GT	RELDEN	025C	87 / 0 30,581:	
54196	COUNTER DECADE	B-1/JB: 38	H DIP 14: 77/79	47C	RADR GF	FIELD	025C	3 / 0 41,040:	
54196	COUNTER DECADE	B-1/JB: 38	H DIP 14: 79/79	47C	RADR GF	FIELD	025C	3 / 0 12,960:	
54196	COUNTER DECADE	B-2 39	H FPK 14: 77/77	97C	NAVIG AI	RELDEN TCVPC	-054C 072C 43CY 2 60HZ	1 / 0 627:	
54197	COUNTER BINARY	B-1/JB: 34	H DIP 14: 77/79	47C	RADR GF	FIELD	025C	3 / 0 41,040:	
54197	COUNTER BINARY	B-1/JB: 34	H DIP 14: 79/79	47C	RADR GF	FIELD	025C	3 / 0 12,960:	
54197	COUNTER BINARY	B-1 34	H DIP 14: 75/78	94C	COMP AUF	FIELD		99 / 0 112,860:	
54197	COUNTER BINARY	D 34	H DIP 14: 77/78	65C	DSPY GBC	FIELD	040C 55XPWR	26 / 0 33,800:	
54197	COUNTER BINARY	D 34	H DIP 14: 78/79	65C	DSPY GBC	FIELD	040C 55XPWR	333 / 0 432,900:	
5420	GATE	J-B 2	H DIP 14: 77/77		RADR AIU	RELDEN OPERATE		525 / 0 16,910:	
5420	GATE	J-B 2	H DIP 14: 76/77	81C	RADR AU	RELDEN TCVPC	-054C 071C 6CY 2. 27HZ	2717 / 0 130,416:	
5420	GATE	J-B 2	H DIP 14: 78/78	27C	COMP GT	RELDEN	025C	39 / 0 13,709:	
5420	GATE	J-B 2	H FPK 14: 75/78	58C	RADR AIF	FIELD		132 / 0 150,480:	

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO.: /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
5420	GATE	J-B 2	H FPK 14: 75/78	58C	PROC AIF	FIELD		165 / 0 188,100:			
5420	GATE	J-B 2	H FPK 14: 75/78	73C	RADR AUF	FIELD		891 / 0 1,015,740:			
5420	GATE	B-2/N 2	H DIP 14: 75/78	73C	RADR AUF	FIELD		34 / 0 4,011:			
5420	GATE	B-2/N 2	H DIP 14: 75/78	73C	RADR AUF	FIELD		75 / 0 9,070:			
5420	GATE	B-2/N 2	H DIP 14: 75/78	73C	RADR AUF	FIELD		16 / 0 32:			
5420	GATE	B-2/N 2	H DIP 14: 75/78	73C	RADR AUF	FIELD		31 / 0 5,734:			
5420	GATE	B-2/N 2	H DIP 14: 75/78	73C	RADR AUF	FIELD		204 / 0 20,832:			
5420	GATE	B-2/N 2	H DIP 14: 75/78	73C	RADR AUF	FIELD		1302 / 0 281,316:			
5420	GATE	B-2/N 2	H DIP 14: 75/78	73C	RADR AUF	FIELD		120 / 0 11,280:			
5420	GATE	B-2/N 2	H DIP 14: 75/78	73C	RADR AUF	FIELD		1 / 0 1:			
5420	GATE	B-1/JB 2	H DIP 14: 77/79	27C	RADR GF	FIELD	025C	3 / 0 41,040:			
5420	GATE	B-1/JB 2	H DIP 14: 77/79	27C	RADR GF	FIELD	025C	3 / 0 41,040:			
5420	GATE	B-1/JB 2	H DIP 14: 77/79	27C	RADR GF	FIELD	025C	2 / 0 27,360:			
5420	GATE	B-1/JB 2	H DIP 14: 79/79	27C	RADR GF	FIELD	025C	3 / 0 12,960:			
5420	GATE	B-1/JB 2	H DIP 14: 79/79	27C	RADR GF	FIELD	025C	3 / 0 12,960:			
5420	GATE	B-1/JB 2	H DIP 14: 79/79	27C	RADR GF	FIELD	025C	2 / 0 8,640:			
5420	GATE	B-1 2	H DIP 14: 75/78	58C	NAVG AIF	FIELD		33 / 0 37,620:			
5420	GATE	B-1 2	H FPK 14: 75/78	73C	COMP AUF	FIELD		1221 / 0 1,391,940:			
5420	GATE	B-1 2	H FPK 14: 75/78	73C	COMP AUF	FIELD		396 / 0 451,440:			
5420	GATE	B-1 2	H FPK 14: 75/78	73C	NAVG AUF	FIELD		99 / 0 112,860:			
5420	GATE	B-1 2	H FPK 14: 75/78	73C	NAVG AUF	FIELD		66 / 0 75,240:			
5420	GATE	B-1 2	H DIP 14: 75/78	73C	COMP AUF	FIELD		165 / 0 188,100:			
5420	GATE	C-1 2	H FPK 14: 75/78	73C	RADR AUF	FIELD		231 / 0 263,340:			

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER			
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRFSS LEVEL	#TESTED/ #FAILED	MPER REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
5420	GATE	C-1 2	H FPK 14: 75/78	73C	RADR AUF	FIELD		3135 / 1 3,573,510:	2189/ 1
5420	GATE	C-1 2	H FPK 14: 75/78	73C	RADR AUF	FIELD		2079 / 0 2,370,060:	
5425	GATE	J-B 2	H FPK 14: 75/78	73C	RADR AUF	FIELD		297 / 0 338,580:	
5425	GATE	B-1/JB 2	H DIP 14: 77/79	30C	RADR GF	FIELD	025C	53 / 0 725,040:	
5425	GATE	B-1/JB 2	H DIP 14: 79/79	30C	RADR GF	FIELD	025C	53 / 0 228,960:	
5425	GATE	C-1 2	H FPK 14: 75/78	73C	RADR AUF	FIELD		33 / 0 37,620:	
5425	GATE	D 2	H DIP 14: 77/78	30C	COMM GF	FIELD	025C	N/P / 0 62,950:	
5425	GATE	D 2	H DIP 14: 79/79	30C	COMM GF	FIELD	025C	N/R / 0 356,226:	
5427	GATE	C-1 3	H FPK 14: 75/78	78C	RADR AUF	FIELD		33 / 0 36,780:	
54283	ADDER FULL	B-1/JB 36	H DIP 16: 77/79	52C	RADR GF	FIELD	025C	1 / 0 13,680:	
54283	ADDER FULL	B-1/JB 36	H DIP 16: 79/79	52C	RADR GF	FIELD	025C	1 / 0 4,320:	
54283	ADDER BINARY	B-2 36	H DIP 16: 77/77		RADR AIU	PFLDEM OPERATE		3550 / 0 114,310:	
5430	GATE	J-B 1	H DIP 14: 77/77		RADR AIU	RELDEM OPERATE		680 / 0 21,903:	
5430	GATE	J-B 1	H DIP 14: 76/77	81C	RADR AU	RELDEM TCVPC	-054C 071C 6CY 2. 27HZ	1254 / 0 80,192:	
5430	GATE	J-B 1	H DIP 14: 78/78	26C	COMP GT	RELDEM	025C	6 / 0 2,109:	
5430	GATE	J-B 1	H FPK 14: 75/78	56C	PROC AIF	FIELD		165 / 0 188,100:	
5430	GATE	J-B 1	H FPK 14: 75/78	71C	RADR AUF	FIELD		297 / 0 338,580:	
5430	GATE	B-2/N 1	H DIP 14: 75/78	71C	RADR AUF	FIELD		102 / 0 12,033:	
5430	GATE	B-2/N 1	H DIP 14: 75/78	71C	RADR AUF	FIELD		15 / 0 1,814:	
5430	GATE	B-2/N 1	H DIP 14: 75/78	71C	RADR AUF	FIELD		217 / 0 40,138:	
5430	GATE	B-2/N 1	H DIP 14: 75/78	71C	RADR AUF	FIELD		837 / 0 180,846:	
5430	GATE	B-2/N 1	H DIP 14: 75/78	71C	RADR AUF	FIELD		42 / 0 3,948:	
5430	GATE	B-2/N 1	H DIP 14: 75/78	71C	RADR AUF	FIELD		153 / 0 31,620:	

DIGITAL DEVICE DATA

VARIOUS TTL	MANUFACTURER OPERATIONAL TYPE					RELIABILITY ANALYSIS CENTER				
	PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED
		CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
5430	GATE	B-1/JB: 1	H DIP 14: 77/79	26C	RADR GF	FIELD	025C		36 / 0 492,480	
5430	GATE	B-1/JB: 1	H DIP 14: 77/79	26C	RADR GF	FIELD	025C		3 / 0 41,040	
5430	GATE	B-1/JB: 1	H DIP 14: 79/79	26C	RADR GF	FIELD	025C		36 / 0 155,520	
5430	GATE	B-1/JB: 1	H DIP 14: 79/79	26C	RADR GF	FIELD	025C		3 / 0 12,960	
5430	GATE	B-1 1	H DIP 14: 75/78	56C	NAVG AIF	FIELD			66 / 0 75,240	
5430	GATE	B-1 1	H FPK 14: 75/78	71C	COMP AUF	FIELD			627 / 0 714,780	
5430	GATE	B-1 1	H FPK 14: 75/78	71C	NAVG AUF	FIELD			66 / 0 75,240	
5430	GATE	B-1 1	H FPK 14: 75/78	71C	NAVG AUF	FIELD			66 / 0 75,240	
5430	GATE	B-1 1	H DIP 14: 75/78	71C	COMP AUF	FIELD			33 / 0 37,620	
5430	GATE	C-1 1	H FPK 14: 75/78	71C	RADR AUF	FIELD			264 / 0 300,960	
5430	GATE	C-1 1	H FPK 14: 75/78	71C	RADR AUF	FIELD			3201 / 0 3,649,140	
5430	GATE	C-1 1	H FPK 14: 75/78	71C	RADR AUF	FIELD			1716 / 0 1,956,240	
5430	GATE	D 1	H DIP 14: 77/78	41C	DSPY CBC	FIELD	040C 55XPWR		168 / 0 218,400	
5430	GATE	D 1	H DIP 14: 78/79	41C	DSPY CBC	FIELD	040C 55XPWR		82 / 0 106,600	
5437	BUFFER	J-B 4	H DIP 14: 77/77	82C	NAVG AI	RELDEN TCVPC	-054C 072C 43CY 2 60HZ		4 / 0 2,507	
5437	BUFFER	J-B 4	H DIP 14: 77/77		RADR AIU	RELDEN OPERATE			2300 / 0 74,083	
5437	BUFFER	J-B 4	H DIP 14: 78/78	35C	COMP GT	RELDEN	025C		6 / 0 2,109	
5437	BUFFER	J-B 4	H FPK 14: 75/78	73C	RADR AUF	FIELD			396 / 0 451,440	
5437	BUFFER	B-1/JB: 4	H DIP 14: 77/79	35C	RADR GF	FIELD	025C		9 / 0 123,120	
5437	BUFFER	B-1/JB: 4	H DIP 14: 77/79	35C	RADR GF	FIELD	025C		8 / 0 109,440	
5437	BUFFER	B-1/JB: 4	H DIP 14: 77/79	35C	RADR GF	FIELD	025C		30 / 0 410,400	
5437	BUFFER	B-1/JB: 4	H DIP 14: 77/79	35C	RADR GF	FIELD	025C		53 / 0 725,040	
5437	BUFFER	B-1/JB: 4	H DIP 14: 77/79	35C	RADR GF	FIELD	025C		159 / 0 2,175,120	

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER			
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	IMEF REPORT NO.: /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
5437	BUFFER	B-1/JB: 4	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	159 / 0 686,880:	
5437	BUFFER	B-1/JB: 4	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	9 / 0 38,880:	
5437	BUFFER	B-1/JB: 4	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	8 / 0 34,560:	
5437	BUFFER	B-1/JB: 4	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	30 / 0 129,600:	
5437	BUFFER	B-1/JB: 4	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	53 / 0 228,960:	
5438	BUFFER	J-B 4	H DIP 14: 77/77		RADR AIU	RELDEN OPERATE		170 / 0 5,476:	
5438	BUFFER	B-1/JB: 4	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	9 / 0 123,120:	
5438	BUFFER	B-1/JB: 4	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	23 / 0 314,640:	
5438	BUFFER	B-1/JB: 4	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	26 / 0 355,680:	
5438	BUFFER	B-1/JB: 4	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	370 / 0 5,061,600:	
5438	BUFFER	B-1/JB: 4	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	26 / 0 112,320:	
5438	BUFFER	B-1/JB: 4	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	370 / 0 1,598,400:	
5438	BUFFER	B-1/JB: 4	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	9 / 0 38,880:	
5438	BUFFER	B-1/JB: 4	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	23 / 0 99,360:	
5440	BUFFER	J-B 2	H DIP 14: 76/77	81C	RADR AU	RELDEN TCVPC	-054C 071C 6CY 2. 27HZ	418 / 0 20,064:	
5440	BUFFER	J-B 2	H DIP 14: 78/78	30C	COMP GT	RELDEN	025C	3 / 0 1,055:	
5440	BUFFER	J-B 2	H FPK 14: 75/78	62C	PROC AIF	FIELD		33 / 0 75,240:	
5440	BUFFER	J-B 2	H FPK 14: 75/78	77C	RADR AUF	FIELD		198 / 0 225,720:	
5440	BUFFER	B-2/N 2	H DIP 14: 75/78	77C	RADR AUF	FIELD		279 / 0 51,606:	
5440	BUFFER	B-2/N 2	H DIP 14: 75/78	77C	RADR AUF	FIELD		476 / 0 48,608:	
5440	BUFFER	B-2/N 2	H DIP 14: 75/78	77C	RADR AUF	FIELD		2914 / 0 629,612:	
5440	BUFFER	B-2/N 2	H DIP 14: 75/78	77C	RADR AUF	FIELD		168 / 0 15,792:	
5440	BUFFER	B-2/N 2	H DIP 14: 75/78	77C	RADR AUF	FIELD		45 / 0 9,300:	

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE		RELIABILITY ANALYSIS CENTER						
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEP REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
5440	BUFFER	B-2/N 2	H DIP 14 75/78	77C	RADR AUF	FIELD		2 / 0 2		
5440	BUFFER	B-1/JB 2	H DIP 14 77/79	30C	RADR GF	FIELD	025C	7 / 0 95,760		
5440	BUFFER	B-1/JB 2	H DIP 14 77/79	30C	RADR GF	FIELD	025C	57 / 0 779,760		
5440	BUFFER	B-1/JB 2	H DIP 14 77/79	30C	RADR GF	FIELD	025C	7 / 0 95,760		
5440	BUFFER	B-1/JB 2	H DIP 14 77/79	30C	RADR GF	FIELD	025C	1 / 0 13,680		
5440	BUFFER	B-1/JB 2	H DIP 14 77/79	30C	RADR GF	FIELD	025C	34 / 0 465,120		
5440	BUFFER	B-1/JB 2	H DIP 14 79/79	30C	RADR GF	FIELD	025C	34 / 0 146,880		
5440	BUFFER	B-1/JB 2	H DIP 14 79/79	30C	RADR GF	FIELD	025C	7 / 0 30,240		
5440	BUFFER	B-1/JB 2	H DIP 14 79/79	30C	RADR GF	FIELD	025C	57 / 0 246,240		
5440	BUFFER	B-1/JB 2	H DIP 14 79/79	30C	RADR GF	FIELD	025C	7 / 0 30,240		
5440	BUFFER	B-1/JB 2	H DIP 14 79/79	30C	RADR GF	FIELD	025C	1 / 0 4,320		
5440	BUFFER	B-1 2	H DIP 14 79/79	30C	COMM GF	FIELD	025C	N/R / 0 356,226		
5440	BUFFER	D 2	H DIP 14 77/78	30C	COMM GF	FIELD	025C	N/R / 0 62,950		
5442	DECODER BCD/DECIMAL	J-B 18	H DIP 16 77/77		RADR AIU	RELDEN OPERATE		300 / 0 9,663		
5442	DECODER BCD/DECIMAL	B-1/JB 18	H DIP 16 77/79	38C	RADR GF	FIELD	025C	34 / 0 465,120		
5442	DECODER BCD/DECIMAL	B-1/JB 18	H DIP 16 77/79	38C	RADR GF	FIELD	025C	2 / 0 27,360		
5442	DECODER BCD/DECIMAL	B-1/JB 18	H DIP 16 79/79	38C	RADR GF	FIELD	025C	34 / 0 146,880		
5442	DECODER BCD/DECIMAL	B-1/JB 18	H DIP 16 79/79	38C	RADR GF	FIELD	025C	2 / 0 8,640		
5442	DECODER BCD/DECIMAL	B-1 18	H DIP 16 75/78	83C	COMP AUF	FIELD		264 / 0 300,960		
5445	INTERFACE DECODER/DRIVER	B-1/JB 18	H DIP 16 77/79	65C	COMM AI	CHECK TCVPC	-054C 055C 14CY 2 22HZ	5015 / 0 141,720		
5445	INTERFACE DECODER/DRIVER	B-1/JB 18	H DIP 16 76/77	74C	COMM AIF	FIELD		50 / 0 20,955		
5445	INTERFACE DECODER/DRIVER	B-1/JB 18	H DIP 16 76/77	74C	COMM AIF	FIELD		140 / 0 70,560		
5445	INTERFACE DECODER/DRIVER	B-1 18	H DIP 16 75/78	89C	COMP AUF	FIELD		66 / 0 75,240		

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
5445	INTERFACE DECODER/DRIVER	B-2 18	H DIP 16: 75/78	38C	COMM GT	FIELD	025C	9 / 0 20,919			
5448	INTERFACE DECODER/DRIVER	B-2 37	H FPK 16: 75/78	55C	COMM GT	FIELD	025C	27 / 0 62,757			
5450	GATE EXPANDABLE	J-B 6	H DIP 14: 77/77		RADR AIU	RELDEN OPERATE		70 / 0 2,255			
5450	GATE EXPANDABLE	B-2/N 6	H DIP 14: 75/78	73C	RADR AUF	FIELD		31 / 0 5,734			
5450	GATE EXPANDABLE	B-2/N 6	H DIP 14: 75/78	73C	RADR AUF	FIELD		663 / 0 67,704			
5450	GATE EXPANDABLE	B-1 6	H DIP 14: 75/78	73C	COMP AUF	FIELD		495 / 0 564,300			
5451	GATE	J-B 6	H FPK 14: 75/78	73C	RADR AUF	FIELD		66 / 0 75,240			
5451	GATE	B-1 6	H DIP 14: 75/78	73C	NAVG AIF	FIELD		66 / 0 75,240			
5451	GATE	B-1 6	H FPK 14: 75/78	73C	COMP AUF	FIELD		2013 / 1 2,294,250	2189/ 1		
5451	GATE	B-1 6	H DIP 14: 75/78	73C	COMP AUF	FIELD		495 / 0 564,300			
5451	GATE	C-1 6	H FPK 14: 75/78	73C	RADR AUF	FIELD		1122 / 0 1,279,080			
5451	GATE	C-1 6	H FPK 14: 75/78	73C	RADR AUF	FIELD		3234 / 0 3,686,760			
5453	GATE	B-2/N 5	H DIP 14: 75/78	73C	RADR AUF	FIELD		17 / 0 1,736			
5454	GATE	B-1 5	H FPK 14: 75/78	76C	COMP AUF	FIELD		528 / 0 601,920			
5454	GATE	C-1 5	H FPK 14: 75/78	76C	RADR AUF	FIELD		99 / 0 112,860			
5454	GATE	C-1 5	H FPK 14: 75/78	76C	RADR AUF	FIELD		957 / 0 1,090,980			
5470	FLIP-FLOP JK	J-B 11	H DIP 14: 77/77		RADR AIU	RELDEN OPERATE		150 / 0 4,832			
5472	FLIP-FLOP JK	J-B 8	H DIP 14: 76/77	81C	RADR AU	RELDEN TCVPC	-054C 071C 6CY 2. 27HZ	209 / 0 10,032			
5472	FLIP-FLOP JK	J-B 8	H FPK 14: 75/78	76C	RADR AUF	FIELD		132 / 0 150,480			
5472	FLIP-FLOP JK	B-2/N 16	H FPK 14: 75/78	61C	RADR AIF	FIELD		20 / 0 1,505			
5472	FLIP-FLOP JK	B-2/N 16	H FPK 14: 75/78	61C	RADR AIF	FIELD		26 / 0 4,287			
5472	FLIP-FLOP JK	B-2/N 8	H DIP 14: 75/78	76C	RADR AUF	FIELD		75 / 0 9,070			
5472	FLIP-FLOP JK	B-2/N 8	H DIP 14: 75/78	76C	RADR AUF	FIELD		341 / 0 73,678			

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE					RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MTEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
5472	FLIP-FLOP JK	B-2/N 8	H DIP 14: 75/78	76C	RADR AUF	FIELD		29 / 0 3,314			
5472	FLIP-FLOP JK	B-1 8	H FPK 14: 75/78	76C	NAVG AUF	FIELD		66 / 0 75,240			
5472	FLIP-FLOP JK	C-1 16	H FPK 14: 75/78	76C	RADR AUF	FIELD		264 / 1 300,210	2190/	1	
5472	FLIP-FLOP JK	C-1 8	H FPK 14: 75/78	76C	RADR AUF	FIELD		990 / 0 1,128,600			
5472	FLIP-FLOP JK	C-1 8	H FPK 14: 75/78	76C	RADR AUF	FIELD		33 / 4 34,920	2191/	1	
									2192/	1	
									2193/	1	
									2194/	1	
5472	FLIP-FLOP JK	C-1 8	H FPK 14: 75/78	76C	RADR AUF	FIELD		33 / 0 37,620			
5472	FLIP-FLOP JK	D 8	H DIP 14: 77/78	30C	COMM GF	FIELD	025C	N/R / 0 188,850			
5472	FLIP-FLOP JK	D 8	H DIP 14: 79/79	30C	COMM GF	FIELD	025C	N/R / 0 1,068,678			
5473	FLIP-FLOP JK	J-B 16	H FPK 14: 77/77	82C	NAVG AI	RELDEN TCVPC	-054C 072C 43CY 2 60HZ	3 / 0 1,880			
5473	FLIP-FLOP JK	J-B 16	H DIP 14: 77/77		RADR AIU	RELDEN OPERATE		10 / 0 322			
5473	FLIP-FLOP JK	J-B 16	H DIP 14: 76/77	81C	RADR AU	RELDEN TCVPC	-054C 071C 6CY 2. 27HZ	9196 / 2 441,408	2315/	2	
5473	FLIP-FLOP JK	J-B 16	H FPK 14: 75/78	67C	RADR AIF	FIELD		231 / 0 263,340			
5473	FLIP-FLOP JK	J-B 16	H FPK 14: 75/78	82C	RADR AUF	FIELD		1617 / 0 1,843,380			
5473	FLIP-FLOP JK	B-2/N 16	H DIP 14: 75/78	80C	RADR AUF	FIELD		68 / 0 8,022			
5473	FLIP-FLOP JK	B-2/N 16	H DIP 14: 75/78	80C	RADR AUF	FIELD		4 / 0 8			
5473	FLIP-FLOP JK	B-1 16	H DIP 14: 75/78	80C	NAVG AIF	FIELD		264 / 0 300,960			
5473	FLIP-FLOP JK	B-1 16	H FPK 14: 75/78	81C	NAVG AUF	FIELD		33 / 0 37,620			
5473	FLIP-FLOP JK	B-1 16	H FPK 14: 75/78	81C	NAVG AUF	FIELD		66 / 0 75,240			
5473	FLIP-FLOP JK	C-1 16	H FPK 14: 75/78	81C	RADR AUF	FIELD		66 / 0 75,240			
5473	FLIP-FLOP JK	C-1 16	H FPK 14: 75/78	81C	RADR AUF	FIELD		4356 / 1 4,965,000	2195/	1	

DIGITAL DEVICE DATA

VARIOUS
TTLMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	REF REPORT NO. / QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
5473	FLIP-FLOP JK	D 16	H DIP 14: 77/78	65C	COMB AIT	FIELD		8 / 0 76,000:	
5473	FLIP-FLOP JK	D 16	H DIP 14: 77/78	35C	COMM GF	FIELD	025C	N/R / 0 188,850:	
5473	FLIP-FLOP JK	D 16	H DIP 14: 79/79	35C	COMM GF	FIELD	025C	N/R / 0 1,068,678:	
5473/7473	FLIP-FLOP JK	NONE 16	N/R DIP 14: 77/79	35C	COMP GB	FIELD	025C	4 / 0 76,936:	
5473/7473	FLIP-FLOP JK	NONE 16	N/R DIP 14: 77/79	35C	COMP GB	FIELD	025C	8 / 0 159,040:	
5474	FLIP-FLOP D	J-B 12	H DIP 14: 77/77	82C	NAVG AI	RELDEN TCVPC	-054C 072C 43CY 2 60HZ	6 / 0 3,760:	
5474	FLIP-FLOP D	J-B 12	H DIP 14: 77/77		RADR AIU	RELDEN OPERATE		2355 / 0 75,855:	
5474	FLIP-FLOP D	J-B 12	H DIP 14: 78/78	35C	COMP GT	RELDEN	025C	93 / 0 32,690:	
5474	FLIP-FLOP D	J-B 12	H FPK 14: 75/78	66C	RADR AIF	FIELD		99 / 0 112,860:	
5474	FLIP-FLOP D	J-B 12	H FPK 14: 75/78	81C	RADR AUF	FIELD		132 / 0 150,480:	
5474	FLIP-FLOP D	B-2/N 12	H DIP 14: 75/78	79C	RADR AUF	FIELD		48 / 0 96:	
5474	FLIP-FLOP D	B-2/N 12	H DIP 14: 75/78	79C	RADR AUF	FIELD		3 / 0 861:	
5474	FLIP-FLOP D	B-2/N 12	H DIP 14: 75/78	79C	RADR AUF	FIELD		7 / 0 218:	
5474	FLIP-FLOP D	B-2/N 12	H DIP 14: 75/78	79C	RADR AUF	FIELD		7 / 0 7:	
5474	FLIP-FLOP D	B-1/JB: 12	H DIP 14: 77/79	34C	RADR GF	FIELD	025C	205 / 0 2,804,400:	
5474	FLIP-FLOP D	B-1/JB: 12	H DIP 14: 77/79	34C	RADR GF	FIELD	025C	13 / 0 177,840:	
5474	FLIP-FLOP D	B-1/JB: 12	H DIP 14: 77/79	34C	RADR GF	FIELD	025C	36 / 0 492,480:	
5474	FLIP-FLOP D	B-1/JB: 12	H DIP 14: 77/79	34C	RADR GF	FIELD	025C	28 / 0 383,040:	
5474	FLIP-FLOP D	B-1/JB: 12	H DIP 14: 77/79	34C	RADR GF	FIELD	025C	7 / 0 95,760:	
5474	FLIP-FLOP D	B-1/JB: 12	H DIP 14: 77/79	34C	RADR GF	FIELD	025C	40 / 0 547,200:	
5474	FLIP-FLOP D	B-1/JB: 12	H DIP 14: 79/79	34C	RADR GF	FIELD	025C	7 / 0 30,240:	
5474	FLIP-FLOP D	B-1/JB: 12	H DIP 14: 79/79	34C	RADR GF	FIELD	025C	40 / 0 172,800:	
5474	FLIP-FLOP D	B-1/JB: 12	H DIP 14: 79/79	34C	RADR GF	FIELD	025C	205 / 0 885,600:	

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER			
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. :/QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
5474	FLIP-FLOP D	B-1/JB: 12	H DIP 14: 79/79	34C	RADR GF	FIELD	025C	13 / 0 56,160	
5474	FLIP-FLOP D	B-1/JB: 12	H DIP 14: 79/79	34C	RADR GF	FIELD	025C	36 / 0 155,520	
5474	FLIP-FLOP D	B-1/JB: 12	H DIP 14: 79/79	34C	RADR GF	FIELD	025C	28 / 0 120,960	
5474	FLIP-FLOP D	B-1 12	H FPK 14: 75/78	81C	COMP AUF	FIELD		3069 / 0 3,529,440	
5474	FLIP-FLOP D	B-1 12	H DIP 16: 75/78	81C	COMP AUF	FIELD		330 / 0 376,200	
5474	FLIP-FLOP D	B-2 12	P DIP 14: 77/77		RADR AIU	RELDEN OPERATE		5 / 0 161	
5474	FLIP-FLOP D	C-1 12	H FPK 14: 75/78	81C	RADR AUF	FIELD		2607 / 1 2,971,410	2196/ 1
5474	FLIP-FLOP D	D 12	H DIP 14: 77/78	34C	COMM GF	FIELD	025C	N/R / 0 62,950	
5474	FLIP-FLOP D	D 12	H DIP 14: 79/79	34C	COMM GF	FIELD	025C	N/R / 0 356,226	
5475	LATCH BISTABLE	J-B 24	H DIP 16: 77/77		RADR AIU	RELDEN OPERATE		5 / 0 161	
5475	LATCH BISTABLE	B-2/N 24	H DIP 16: 75/78	69C	RADR AUF	FIELD		100 / 0 7,525	
5475	LATCH BISTABLE	B-2/N 24	H DIP 16: 75/78	84C	RADR AUF	FIELD		54 / 0 5,076	
5475	LATCH BISTABLE	B-2/N 24	H DIP 16: 75/78	84C	RADR AUF	FIELD		3 / 0 3	
5475	LATCH BISTABLE	B-1 24	H DIP 16: 75/78	69C	NAVG AUF	FIELD		99 / 0 112,860	
5475	LATCH BISTABLE	B-1 24	H DIP 16: 75/78	84C	COMP AUF	FIELD		594 / 0 677,160	
5476	FLIP-FLOP JK	J-B 16	H DIP 16: 75/78	79C	RADR AUF	FIELD		66 / 0 75,240	
5476	FLIP-FLOP JK	B-2/N 16	H DIP 16: 75/78	79C	RADR AUF	FIELD		29 / 0 6,781	
5476	FLIP-FLOP JK	B-2/N 16	H DIP 16: 75/78	79C	RADR AUF	FIELD		248 / 0 45,872	
5476	FLIP-FLOP JK	B-2/N 16	H DIP 16: 75/78	79C	RADR AUF	FIELD		850 / 0 86,800	
5476	FLIP-FLOP JK	B-2/N 16	H DIP 16: 75/78	79C	RADR AUF	FIELD		3441 / 1 743,478	2321/ 1
5476	FLIP-FLOP JK	B-2/N 16	H DIP 16: 75/78	79C	RADR AUF	FIELD		180 / 0 16,920	
5476	FLIP-FLOP JK	B-2/N 16	H DIP 16: 75/78	79C	RADR AUF	FIELD		180 / 0 37,200	
5476	FLIP-FLOP JK	B-2/N 16	H DIP 16: 75/78	79C	RADR AUF	FIELD		5 / 0 5	

DIGITAL DEVICE DATA

VARIOUS
TTLMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEP REPORT NO.: /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
5476	FLIP-FLOP JK	B-1 16	H FPK 16: 75/78	79C	RADR AUF	FIELD		132 / 0 150,480	
5476/7476	FLIP-FLOP JK	NONE 16	N/R DIP 16: 77/79	35C	COMP GB	FIELD	025C	4 / 0 76,936	
5476/7476	FLIP-FLOP JK	NONE 16	N/R DIP 16: 77/79	35C	COMP GB	FIELD	025C	8 / 0 159,040	
5477	LATCH BISTABLE	B-1 24	H FPK 14: 75/78	90C	RADR AUF	FIELD		363 / 0 413,820	
5482	ADDER FULL	J-B 21	H FPK 14: 75/78	92C	RADR AUF	FIELD		33 / 0 37,620	
5482	ADDER FULL	B-2/N 21	H DIP 14: 75/78	92C	RADR AUF	FIELD		310 / 0 66,980	
5482	ADDER FULL	C-1 21	H FPK 14: 75/78	92C	RADR AUF	FIELD		4521 / 1 5,154,120	2197/ 1
5483	ADDER FULL	B-1 36	H DIP 16: 75/78	101C	COMP AUF	FIELD		66 / 0 75,240	
5485	COMPARATOR	B-1/JB 31	H DIP 16: 77/79	50C	RADR GF	FIELD	025C	5 / 0 68,400	
5485	COMPARATOR	B-1/JB 31	H DIP 16: 77/79	50C	RADR GF	FIELD	025C	38 / 1 519,840	
5485	COMPARATOR	B-1/JB 31	H DIP 16: 79/79	50C	RADR GF	FIELD	025C	38 / 0 164,160	
5485	COMPARATOR	B-1/JB 31	H DIP 16: 79/79	50C	RADR GF	FIELD	025C	5 / 0 21,600	
5486	GATE	J-B 4	H DIP 14: 77/77		RADR AIU	RELDEN OPERATE		875 / 0 28,184	
5486	GATE	J-B 4	H DIP 14: 78/78	40C	COMP GT	RELDEN	025C	9 / 0 3,164	
5486	GATE	J-B 4	H FPK 14: 75/78	70C	PROC AIF	FIELD		33 / 0 75,240	
5486	GATE	B-1/JB 4	H DIP 14: 77/79	40C	RADR GF	FIELD	025C	7 / 0 95,760	
5486	GATE	B-1/JB 4	H DIP 14: 77/79	40C	RADR GF	FIELD	025C	65 / 0 889,200	
5486	GATE	B-1/JB 4	H DIP 14: 77/79	40C	RADR GF	FIELD	025C	4 / 0 54,720	
5486	GATE	B-1/JB 4	H DIP 14: 77/79	40C	RADR GF	FIELD	025C	59 / 0 807,120	
5486	GATE	B-1/JB 4	H DIP 14: 79/79	40C	RADR GF	FIELD	025C	4 / 0 17,280	
5486	GATE	B-1/JB 4	H DIP 14: 79/79	40C	RADR GF	FIELD	025C	59 / 0 254,880	
5486	GATE	B-1/JB 4	H DIP 14: 79/79	40C	RADR GF	FIELD	025C	7 / 0 30,240	
5486	GATE	B-1/JB 4	H DIP 14: 79/79	40C	RADR GF	FIELD	025C	65 / 0 280,800	

DIGITAL DEVICE DATA

VARIOUS
TTLMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MVEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
5486	GATE	B-1 4	H FPK 14: 75/78	89C	COMP AUF	FIELD		528 / 0 601,920	
5486	GATE	B-2 4	H DIP 14: 77/77	89C	RADR AIU	RELDEN OPERATE		5 / 0 161	
5490	COUNTER DECADE	B-2/N 15	H DIP 14: 76/77	81C	RADR AU	RELDEN TCVPC	-054C 071C 6CY 2. 27HZ	1463 / 0 70,224	
5490	COUNTER DECADE	B-2/N 15	H DIP 14: 75/78	86C	RADR AUF	FIELD		90 / 0 15,336	
5490	COUNTER DECADE	B-2/N 15	H DIP 14: 75/78	86C	RADR AUF	FIELD		81 / 0 16,740	
5490	COUNTER DECADE	B-1 15	H DIP 14: 75/78	86C	COMP AUF	FIELD		66 / 0 75,240	
5492	COUNTER	B-1 26	H FPK 14: 75/78	86C	RADR AUF	FIELD		66 / 0 75,240	
5492	COUNTER	B-1 26	H DIP 14: 75/78	86C	COMP AUF	FIELD		66 / 0 75,240	
5493	COUNTER BINARY	B-2/N 25	H DIP 14: 76/77	81C	RADR AU	RELDEN TCVPC	-054C 071C 6CY 2. 27HZ	836 / 0 40,128	
5493	COUNTER BINARY	B-2/N 25	H DIP 14: 75/78	86C	RADR AUF	FIELD		12 / 0 24	
5493	COUNTER BINARY	B-2/N 25	H DIP 14: 75/78	86C	RADR AUF	FIELD		3 / 0 861	
5493	COUNTER BINARY	B-2/N 25	H DIP 14: 75/78	86C	RADR AUF	FIELD		7 / 0 218	
5493	COUNTER BINARY	B-2/N 25	H DIP 14: 75/78	86C	RADR AUF	FIELD		36 / 0 3,384	
5493	COUNTER BINARY	B-1 25	H FPK 14: 75/78	75C	RADR AUF	FIELD		99 / 0 112,860	
5493	COUNTER BINARY	B-1 25	H FPK 14: 75/78	90C	RADR AUF	FIELD		330 / 0 376,200	
5493	COUNTER BINARY	B-1 25	H DIP 14: 75/78	86C	COMP AUF	FIELD		396 / 0 451,440	
5493	COUNTER BINARY	D 25	H DIP 14: 77/78	41C	COMM GF	FIELD	025C	N/R / 0 125,900	
5493	COUNTER BINARY	D 25	H DIP 14: 79/79	41C	COMM GF	FIELD	025C	N/R / 0 712,452	
5493/7493	COUNTER BINARY	NONE 25	N/R DIP 14: 77/79	41C	COMP GB	FIELD	025C	4 / 0 76,936	
5493/7493	COUNTER BINARY	NONE 25	N/R DIP 14: 77/79	41C	COMP GB	FIELD	025C	8 / 2 159,040	2246/ 2
5495	SHIFT REC	J-B 37	H DIP 14: 77/77		RADR AIU	RELDEN OPERATE		90 / 0 2,899	
5495	SHIFT REC	B-2/N 37	H DIP 14: 75/78	90C	RADR AUF	FIELD		42 / 0 3,948	
5495	SHIFT REC	B-1 37	H DIP 14: 75/78	80C	NAVC AUF	FIELD		132 / 0 150,480	

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO.: /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
5495	SHIFT REG	B-1 37	H FPK 75/78	14 101C	RADR AUF	FIELD		1023 / 0 1,166,220			
5495	SHIFT REG	B-1 37	H FPK 75/78	14 101C	COMP AUF	FIELD		1485 / 0 1,692,900			
5496	SHIFT REG	J-B 39	H DIP 77/77	16 92C	RADR AIU	RELDEM OPERATE		260 / 0 8,375			
5496	SHIFT REG	B-1 39	H DIP 75/78	16 92C	RADR AUF	FIELD		198 / 2 223,800			
5496	SHIFT REG	D 39	H DIP 77/78	16 77C	COMB AIT	FIELD		332 / 0 3,154,000			
5497	MULTIPLIER BINARY	B-1 54	H DIP 78/78	16 56C	COMP GT	RELDEM	025C	6 / 0 2,109			
7093	BUFFER	B-1 4	H DIP 78/78	14 30C	COMP GT	RELDEM	025C	63 / 0 22,145			
7270	SHIFT REG	D-1 57	P DIP 77/78	14 44C	DSPY GBC	FIELD	040C 55XPWR	8661 / 1 11,259,300			
7270	SHIFT REG	D-1 57	P DIP 78/79	14 44C	DSPY GBC	FIELD	040C 55XPWR	14024 / 6 18,231,200			
7400	GATE	D 4	H DIP 78/79	14 59C	COMM AIF	FIELD		100 / 0 30,888			
7400	GATE	D 4	H DIP 77/79	14 29C	COMP GB	FIELD	025C	73 / 0 1,404,082			
7400	GATE	D 4	H DIP 77/79	14 29C	COMP GB	FIELD	025C	146 / 0 2,902,480			
7400	GATE	D-1 4	P DIP 76/78	14 30C	COMP GBC	FIELD	025C	40 / 0 403,200			
7400	GATE	D-1 4	P DIP 78/78	14 30C	COMP GBC	FIELD	025C	40 / 0 115,200			
7400	GATE	D-1 4	P DIP 77/77	14 35C	COMM GBC	FIELD	030C	2250 / 9 10,174,500			
7400	GATE	D-1 4	P DIP 77/78	14 45C	DSPY GBC	FIELD	040C 55XPWR	99999 / 97 536,069,300			
						FIELD		99999 / 0			
						FIELD		99999 / 0			
						FIELD		12365 / 0			
7400	GATE	D-1 4	P DIP 78/79	14 45C	DSPY GBC	FIELD	040C 55XPWR	99999 / 81 612,231,100			
						FIELD		99999 / 0			
						FIELD		99999 / 0			
						FIELD		99999 / 0			

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEP REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
						FIELD		70951 / 0		
7400	GATE	NONE 4	N/R DIP 14 77/79	30C	COMP GB	FIELD	025C	134 / 1 2,577,358	2247/ 1	
7400	GATE	NONE 4	N/R DIP 14 77/79	30C	COMP GB	FIELD	025C	256 / 1 4,612,160	2248/ 1	
7400	GATE	X 4	P DIP 14 76/78	30C	COMP GBC	FIELD	025C	30 / 0 459,204		
7400	GATE	X 4	P DIP 14 76/78	30C	COMP GBC	FIELD	025C	21 / 0 194,112		
7400	GATE	X 4	P DIP 14 78/78	30C	COMP GBC	FIELD	025C	30 / 0 86,400		
7400	GATE	X 4	P DIP 14 78/78	30C	COMP GBC	FIELD	025C	21 / 0 60,480		
7401	GATE	D 4	H DIP 14 77/79	30C	COMP GB	FIELD	025C	82 / 1 1,577,188	2249/ 1	
7401	GATE	D 4	H DIP 14 77/79	30C	COMP GB	FIELD	025C	164 / 0 3,260,320		
7401	GATE	D-1 4	P DIP 14 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	7387 / 6 9,603,100		
7401	GATE	D-1 4	P DIP 14 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	8116 / 0 10,550,800		
7402	GATE	D 4	H DIP 14 77/79	31C	COMP GB	FIELD	025C	6 / 0 115,404		
7402	GATE	D 4	H DIP 14 77/79	31C	COMP GB	FIELD	025C	12 / 0 238,560		
7402	GATE	D-1 4	P DIP 14 77/78	46C	DSPY GBC	FIELD	040C 55XPWR	99999 / 28 179,808,200		
						FIELD		38315 / 0		
7402	GATE	D-1 4	P DIP 14 78/79	46C	DSPY GBC	FIELD	040C 55XPWR	99999 / 16 209,697,800		
						FIELD		61307 / 0		
7402	GATE	NONE 4	N/R DIP 14 77/79	31C	COMP GB	FIELD	025C	3 / 0 57,702		
7402	GATE	NONE 4	N/R DIP 14 77/79	31C	COMP GB	FIELD	025C	4 / 0 79,520		
7402	GATE	X 4	P DIP 14 76/78	31C	COMP GBC	FIELD	025C	17 / 0 191,376		
7403	GATE	D-1 4	P DIP 14 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	65503 / 16 85,153,900		
7403	GATE	D-1 4	P DIP 14 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	96170 / 24 125,021,000		
7404	INVERTER	D 6	H DIP 14 77/79	31C	COMP GB	FIELD	025C	297 / 1 5,712,498	2250/ 1	

DIGITAL DEVICE DATA

VARIOUS
TTLMANUFACTURER
OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TFST TYPE		PART HOURS	
7404	INVERTER	D 6	H DIP 14: 77/79	31C	COMP GB	FIELD	025C	592 / 1 11,768,960	2251/ 1
7404	INVERTER	D 6	H FPK 14: 77/78	48C	DSPY GBC	FIELD	040C 55XPWR:	3507 / 0 4,559,100	
7404	INVERTER	D 6	H FPK 14: 78/79	48C	DSPY GBC	FIELD	040C 55XPWR:	2995 / 0 3,893,500	
7404	INVERTER	D-1 6	P DIP 14: 76/78	32C	COMP GBC	FIELD	025C	9 / 0 93,600	
7404	INVERTER	D-1 6	P DIP 14: 76/78	32C	COMP GBC	FIELD	025C	50 / 0 504,000	
7404	INVERTER	D-1 6	P DIP 14: 78/78	32C	COMP GBC	FIELD	025C	9 / 0 25,920	
7404	INVERTER	D-1 6	P DIP 14: 78/78	32C	COMP GBC	FIELD	025C	50 / 0 144,000	
7404	INVERTER	D-1 6	P DIP 14: 77/78	47C	DSPY GBC	FIELD	040C 55XPWR:	99999 / 37 250,400,800	
						FIELD		92617 / 0	
7404	INVERTER	D-1 6	P DIP 14: 78/79	47C	DSPY GBC	FIELD	040C 55XPWR:	99999 / 61 313,107,600	
						FIELD		99999 / 0	
						FIELD		40854 / 0	
7404	INVERTER	NONE 6	N/R DIP 14: 77/79	32C	COMP GB	FIELD	025C	311 / 4 5,981,774	2252/ 4
7404	INVERTER	NONE 6	N/R DIP 14: 77/79	32C	COMP GB	FIELD	025C	620 / 4 12,325,600	2253/ 2
									2254/ 1
									2255/ 1
7404	INVERTER	X 6	P DIP 14: 76/78	32C	COMP GBC	FIELD	025C	10 / 0 459,204	
7404	INVERTER	X 6	P DIP 14: 78/78	32C	COMP GBC	FIELD	025C	10 / 0 28,800	
7405	INVERTER	D 6	H DIP 14: 77/79	32C	COMP GB	FIELD	025C	2 / 0 38,468	
7405	INVERTER	D 6	H DIP 14: 77/79	32C	COMP GB	FIELD	025C	4 / 0 79,520	
7405	INVERTER	D-1 6	P DIP 14: 77/78	47C	DSPY GBC	FIELD	040C 55XPWR:	23818 / 11 30,963,400	
7405	INVERTER	D-1 6	P DIP 14: 78/79	47C	DSPY GBC	FIELD	040C 55XPWR:	33060 / 9 42,978,000	
7405	INVERTER	NONE 6	N/R DIP 14: 77/79	32C	COMP GB	FIELD	025C	3 / 0 57,702	

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
7405	INVERTER	NONE 6	N/R DIP 14 77/79	32C	COMP GB	FIELD	025C	6 / 0 119,280		
7406	INTERFACE BUFFER/DRIVER	D 6	H DIP 14 77/79	40C	COMP GB	FIELD	025C	39 / 1 750,126	2256/	1
7406	INTERFACE BUFFER/DRIVER	D 6	H DIP 14 77/79	40C	COMP GB	FIELD	025C	78 / 0 1,550,640		
7406	INTERFACE BUFFER/DRIVER	D-1 6	P DIP 14 77/78	57C	DSPY GBC	FIELD	040C 55XPWR	40226 / 19 52,293,800		
7406	INTERFACE BUFFER/DRIVER	D-1 6	P DIP 14 78/79	57C	DSPY GBC	FIELD	040C 55XPWR	68042 / 23 88,454,600		
7406	INTERFACE BUFFER/DRIVER	NONE 6	N/R DIP 14 77/79	42C	COMP GB	FIELD	025C	3 / 0 57,702		
7406	INTERFACE BUFFER/DRIVER	NONE 6	N/R DIP 14 77/79	42C	COMP GB	FIELD	025C	6 / 1 119,280	2257/	1
7407	INTERFACE BUFFER/DRIVER	D-1 6	P DIP 14 77/78	54C	DSPY GBC	FIELD	040C 55XPWR	26422 / 6 34,348,600		
7407	INTERFACE BUFFER/DRIVER	D-1 6	P DIP 14 78/79	54C	DSPY GBC	FIELD	040C 55XPWR	34743 / 9 45,165,900		
7408	GATE	D-1 4	P DIP 14 76/78	33C	COMP GBC	FIELD	025C	3 / 0 31,104		
7408	GATE	D-1 4	P DIP 14 76/78	33C	COMP GBC	FIELD	025C	40 / 0 403,200		
7408	GATE	D-1 4	P DIP 14 77/78	28C	COMB GBC	FIELD	020C	6 / 0 67,578		
7408	GATE	D-1 4	P DIP 14 78/78	33C	COMP GBC	FIELD	025C	3 / 0 8,640		
7408	GATE	D-1 4	P DIP 14 78/78	33C	COMP GBC	FIELD	025C	40 / 0 115,200		
7408	GATE	D-1 4	P DIP 14 77/78	48C	DSPY GBC	FIELD	040C 55XPWR	75492 / 11 98,139,600		
7408	GATE	D-1 4	P DIP 14 78/79	48C	DSPY GBC	FIELD	040C 55XPWR	91741 / 17 119,263,300		
7408	GATE	X 4	P DIP 14 76/78	33C	COMP GBC	FIELD	025C	34 / 0 382,752		
7408	GATE	X 4	P DIP 14 78/78	33C	COMP GBC	FIELD	025C	17 / 0 48,960		
7408	GATE	X 4	P DIP 14 78/78	33C	COMP GBC	FIELD	025C	34 / 0 97,920		
7410	GATE	D 3	H DIP 14 77/79	28C	COMP GB	FIELD	025C	6 / 0 115,404		
7410	GATE	D-1 3	P DIP 14 76/78	28C	COMP GBC	FIELD	025C	20 / 0 201,600		
7410	GATE	D-1 3	P DIP 14 78/78	28C	COMP GBC	FIELD	025C	20 / 0 57,600		
7410	GATE	D-1 3	P DIP 14 77/78	43C	DSPY GBC	FIELD	040C 55XPWR	86771 / 18 112,802,300		

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
7410	GATE	D-1 3	P DIP 14 78/79	43C	DSPY GBC	FIELD	040C 55XPWR	92111 / 14 11,974,300			
7410	GATE	NONE 3	N/R DIP 14 77/79	28C	COMP GB	FIELD	025C	41 / 0 788,594			
7410	GATE	NONE 3	N/R DIP 14 77/79	28C	COMP GB	FIELD	025C	72 / 0 1,312,080			
7410	GATE	X 3	P DIP 14 76/78	28C	COMP GBC	FIELD	025C	17 / 0 191,376			
7410	GATE	X 3	P DIP 14 78/78	28C	COMP GBC	FIELD	025C	17 / 0 48,960			
74107	FLIP-FLOP JK	D 16	H DIP 14 77/79	28C	COMP GB	FIELD	025C	12 / 1 230,808	2258/ 1		
74107	FLIP-FLOP JK	D 16	H DIP 14 77/79	35C	COMP GB	FIELD	025C	24 / 0 477,120			
74107	FLIP-FLOP JK	D-1 16	P DIP 14 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	13876 / 1 18,038,800			
74107	FLIP-FLOP JK	D-1 16	P DIP 14 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	20054 / 8 26,070,200			
74107	FLIP-FLOP JK	NONE 16	N/R DIP 14 77/79	35C	COMP GB	FIELD	025C	45 / 0 865,530			
74107	FLIP-FLOP JK	NONE 16	N/R DIP 14 77/79	35C	COMP GB	FIELD	025C	84 / 1 1,669,920	2259/ 1		
74109	FLIP-FLOP JK	D-1 16	P DIP 16 77/78	48C	DSPY GBC	FIELD	040C 55XPWR	6516 / 2 8,470,800			
74109	FLIP-FLOP JK	D-1 16	P DIP 16 78/79	48C	DSPY GBC	FIELD	040C 55XPWR	13167 / 0 17,117,100			
7411	GATE	D-1 3	P DIP 14 77/78	46C	DSPY GBC	FIELD	040C 55XPWR	903 / 0 1,173,900			
7411	GATE	D-1 3	P DIP 14 78/79	46C	DSPY GBC	FIELD	040C 55XPWR	1320 / 0 1,716,000			
7412	GATE	D-1 3	P DIP 14 77/77	34C	COMM GBC	FIELD	030C	2250 / 2 10,174,500			
74121	FLIP-FLOP MONOSTABLE	D 8	H DIP 14 77/79	33C	COMP GB	FIELD	025C	7 / 0 134,638			
74121	FLIP-FLOP MONOSTABLE	D 8	H DIP 14 77/79	33C	COMP GB	FIELD	025C	14 / 0 278,320			
74121	FLIP-FLOP MONOSTABLE	D-1 8	P DIP 14 77/78	50C	DSPY GBC	FIELD	040C 55XPWR	17582 / 4 22,856,600			
74121	FLIP-FLOP MONOSTABLE	D-1 8	P DIP 14 78/79	50C	DSPY GBC	FIELD	040C 55XPWR	26225 / 6 34,092,500			
74121	FLIP-FLOP MONOSTABLE	NONE 8	N/R DIP 14 77/79	35C	COMP GB	FIELD	025C	13 / 0 250,042			
74121	FLIP-FLOP MONOSTABLE	NONE 8	N/R DIP 14 77/79	35C	COMP GB	FIELD	025C	26 / 0 516,880			
74122	FLIP-FLOP MONOSTABLE	D-1 10	P DIP 14 77/78	53C	DSPY GBC	FIELD	040C 55XPWR	8804 / 5 11,445,200			

DIGITAL DEVICE DATA

VARIOUS TTL		:MANUFACTURER :OPEKATIONAL TYPE				RELIABILITY ANALYSIS CENTER			
: PART NO. :	: DEVICE FUNCTION :	: SCR.N. CLASS :	: PACKAGE/ PINS :	: JCT.* TEMP. :	: EQUIP. TYPE :	: DATA CLASS. :	: STRESS LEVEL :	: #TESTED/ #FAILED :	: MPEF REPORT NO. :/QTY FAILED :
:	: CIRCUIT FUNCTION :	: NO. GATES :	: TEST DATE :	:	: APPL. ENV. :	: TEST TYPE :	:	: PART HOURS :	:
: 74122 :	: FLIP-FLOP MONOSTABLE :	: D-1 10 :	: P DIP 14: 78/79 :	: 53C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR:	: 9839 / 1 12,790,700:	:
: 74123 :	: FLIP-FLOP MONOSTABLE :	: D 20 :	: H DIP 16: 78/79 :	: 48C :	: COMM GF :	: FIELD :	: 025C :	: 2 / 0 26,000:	:
: 74123 :	: FLIP-FLOP MONOSTABLE :	: D-1 20 :	: P DIP 16: 76/78 :	: 48C :	: COMP GBC :	: FIELD :	: 025C :	: 20 / 0 201,600:	:
: 74123 :	: FLIP-FLOP MONOSTABLE :	: D-1 20 :	: P DIP 16: 78/78 :	: 48C :	: COMP GBC :	: FIELD :	: 025C :	: 20 / 0 57,600:	:
: 74123 :	: FLIP-FLOP MONOSTABLE :	: D-1 20 :	: P DIP 16: 77/78 :	: 48C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR:	: 13 / 0 16,900:	:
: 74123 :	: FLIP-FLOP MONOSTABLE :	: D-1 20 :	: P DIP 16: 78/79 :	: 48C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR:	: 14 / 0 18,200:	:
: 74123 :	: FLIP-FLOP MONOSTABLE :	: X 20 :	: P DIP 16: 76/78 :	: 48C :	: COMP GBC :	: FIELD :	: 025C :	: 21 / 0 194,112:	:
: 74123 :	: FLIP-FLOP MONOSTABLE :	: X 20 :	: P DIP 16: 78/78 :	: 48C :	: COMP GBC :	: FIELD :	: 025C :	: 21 / 0 60,480:	:
: 74125 :	: BUFFER :	: D-1 4 :	: P DIP 14: 76/78 :	: 43C :	: COMP GBC :	: FIELD :	: 025C :	: 10 / 0 100,800:	:
: 74125 :	: BUFFER :	: D-1 4 :	: P DIP 14: 78/78 :	: 43C :	: COMP GBC :	: FIELD :	: 025C :	: 10 / 0 28,800:	:
: 74125 :	: BUFFER :	: D-1 4 :	: P DIP 14: 77/78 :	: 58C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR:	: 116 / 0 150,800:	:
: 74125 :	: BUFFER :	: D-1 4 :	: P DIP 14: 78/79 :	: 58C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR:	: 106 / 0 137,800:	:
: 7413 :	: GATE SCHMITT TRIGGER :	: D-1 2 :	: P DIP 14: 77/78 :	: 49C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR:	: 28537 / 15 37,098,100:	:
: 7413 :	: GATE SCHMITT TRIGGER :	: D-1 2 :	: P DIP 14: 78/79 :	: 49C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR:	: 31620 / 10 41,106,000:	:
: 74148 :	: ENCODER :	: D-1 29 :	: P DIP 16: 76/78 :	: 44C :	: COMP GBC :	: FIELD :	: 025C :	: 6 / 0 61,440:	:
: 74148 :	: ENCODER :	: D-1 29 :	: P DIP 16: 76/78 :	: 44C :	: COMP GBC :	: FIELD :	: 025C :	: 6 / 0 62,400:	:
: 74148 :	: ENCODER :	: D-1 29 :	: P DIP 16: 76/78 :	: 44C :	: COMP GBC :	: FIELD :	: 025C :	: 3 / 0 16,632:	:
: 74148 :	: ENCODER :	: D-1 29 :	: P DIP 16: 78/78 :	: 44C :	: COMP GBC :	: FIELD :	: 025C :	: 6 / 0 17,280:	:
: 74148 :	: ENCODER :	: D-1 29 :	: P DIP 16: 78/78 :	: 44C :	: COMP GBC :	: FIELD :	: 025C :	: 6 / 0 17,280:	:
: 74148 :	: ENCODER :	: D-1 29 :	: P DIP 16: 78/78 :	: 44C :	: COMP GBC :	: FIELD :	: 025C :	: 3 / 0 8,640:	:
: 74150 :	: MULTIPLEXER :	: D-1 26 :	: P DIP 24: 77/79 :	: 39C :	: COMP GB :	: FIELD :	: 025C :	: 12 / 1 230,808:	: 2260/ 1
: 74150 :	: MULTIPLEXER :	: D-1 26 :	: P DIP 24: 77/79 :	: 39C :	: COMP GB :	: FIELD :	: 025C :	: 24 / 0 477,120:	:
: 74150 :	: MULTIPLEXER :	: D-1 26 :	: P DIP 24: 77/78 :	: 54C :	: DSPY GBC :	: FIELD :	: 040C 55XPWR:	: 24265 / 9 31,544,500:	:

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. : /OTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
74150	MULTIPLEXER	D-1 26	P DIP 24: 78/79	54C	DSPY GBC	FIELD	040C 55XPWR:	28352 / 10 : 36,857,600:		
74151	MULTIPLEXER	D-1 17	P DIP 16: 77/78	54C	DSPY GBC	FIELD	040C 55XPWR:	14188 / 6 : 18,444,400:		
74151	MULTIPLEXER	D-1 17	P DIP 16: 78/79	54C	DSPY GBC	FIELD	040C 55XPWR:	18809 / 3 : 24,451,700:		
74151	MULTIPLEXER	NONE 17	N/R DIP 16: 77/79	39C	COMP GB	FIELD	025C	10 / 0 : 192,340:		
74151	MULTIPLEXER	NONE 17	N/R DIP 16: 77/79	39C	COMP GB	FIELD	025C	20 / 1 : 397,600:	2261/ 1	
74153	MULTIPLEXER	D 16	H DIP 16: 77/79	43C	COMP GB	FIELD	025C	7 / 0 : 134,638:		
74153	MULTIPLEXER	D 16	H DIP 16: 77/79	43C	COMP GB	FIELD	025C	14 / 0 : 278,320:		
74153	MULTIPLEXER	D-1 16	P DIP 16: 76/78	43C	COMP GBC	FIELD	025C	20 / 0 : 201,600:		
74153	MULTIPLEXER	D-1 16	P DIP 16: 78/78	43C	COMP GBC	FIELD	025C	20 / 0 : 57,600:		
74153	MULTIPLEXER	D-1 16	P DIP 16: 77/78	58C	DSPY GBC	FIELD	040C 55XPWR:	5386 / 0 : 7,001 900:		
74153	MULTIPLEXER	D-1 16	P DIP 16: 78/79	58C	DSPY GBC	FIELD	040C 55XPWR:	9050 / 1 : 11,65,000:		
74153	MULTIPLEXER	NONE 16	N/R DIP 16: 77/79	43C	COMP GB	FIELD	025C	3 / 0 : 57,702:		
74153	MULTIPLEXER	NONE 16	N/R DIP 16: 77/79	43C	COMP GB	FIELD	025C	6 / 0 : 119,280:		
74154	DECODER/DEMUTIPLEX	D-1 25	P DIP 24: 77/79	37C	COMP GB	FIELD	025C	11 / 0 : 211,574:		
74154	DECODER/DEMUTIPLEX	D-1 25	P DIP 24: 77/79	37C	COMP GB	FIELD	025C	22 / 0 : 437,360:		
74154	DECODER/DEMUTIPLEX	NONE 25	N/R DIP 24: 77/78	52C	DSPY GBC	FIELD	040C 55XPWR:	21582 / 4 : 28,056,600:		
74154	DECODER/DEMUTIPLEX	NONE 25	N/R DIP 24: 78/79	52C	DSPY GBC	FIELD	040C 55XPWR:	29993 / 5 : 38,990,900:		
74155	DECODER/DEMUTIPLEX	NONE 15	N/R DIP 16: 77/79	37C	COMP GB	FIELD	025C	7 / 1 : 134,638:	2262/ 1	
74155	DECODER/DEMUTIPLEX	NONE 15	N/R DIP 16: 77/79	37C	COMP GB	FIELD	025C	14 / 0 : 278,320:		
74155	DECODER/DEMUTIPLEX	X 15	P DIP 16: 76/78	37C	COMP GBC	FIELD	025C	17 / 0 : 191,376:		
74155	DECODER/DEMUTIPLEX	X 15	P DIP 16: 78/78	37C	COMP GBC	FIELD	025C	17 / 0 : 48,960:		
74157	MULTIPLEXER	X 19	P DIP 16: 76/78	40C	COMP GBC	FIELD	025C	51 / 0 : 574,128:		
74157	MULTIPLEXER	X 19	P DIP 16: 78/78	40C	COMP GBC	FIELD	025C	51 / 0 : 146,880:		

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER : OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
74163	COUNTER BINARY	D-1 58	P DIP 16: 77/78	70C	DSPY GBC	FIELD	040C 55XPWR:	2740 / 0 3,562,000:			
74163	COUNTER BINARY	D-1 58	P DIP 16: 78/79	70C	DSPY GBC	FIELD	040C 55XPWR:	6673 / 1 8,674,900:			
74164	SHIFT REG	D-1 36	P DIP 14: 77/78	58C	DSPY GBC	FIELD	040C 55XPWR:	3314 / 2 4,308,200:			
74164	SHIFT REG	D-1 36	P DIP 14: 78/79	58C	DSPY GBC	FIELD	040C 55XPWR:	5347 / 4 6,951,100:			
74165	SHIFT REG	D-1 62	P DIP 16: 77/78	61C	DSPY GBC	FIELD	040C 55XPWR:	5946 / 0 77,298,000:			
74165	SHIFT REG	D-1 62	P DIP 16: 78/79	61C	DSPY GBC	FIELD	040C 55XPWR:	15365 / 2 19,974,500:			
74170	REGISTER	D 98	H DIP 16: 77/78	97C	DSPY GBC	FIELD	040C 55XPWR:	955 / 0 1,241,500:			
74170	REGISTER	D 98	H DIP 16: 78/79	97C	DSPY GBC	FIELD	040C 55XPWR:	2968 / 0 3,858,400:			
74173	FLIP-FLOP D	D-1 45	P DIP 16: 77/78	45C	COMB GBC	FIELD	020C	12 / 2 135,156:	2318/ 2		
74173	FLIP-FLOP D	D-1 45	P DIP 16: 77/78	65C	DSPY GBC	FIELD	040C 55XPWR:	4674 / 1 6,076,200:			
74173	FLIP-FLOP D	D-1 45	P DIP 16: 78/79	65C	DSPY GBC	FIELD	040C 55XPWR:	9214 / 1 11,978,200:			
74174	FLIP-FLOP D	D-1 36	P DIP 16: 77/79	48C	COMP GB	FIELD	025C	1 / 0 19,234:			
74174	FLIP-FLOP D	D-1 36	P DIP 16: 77/79	48C	COMP GB	FIELD	025C	2 / 0 39,760:			
74174	FLIP-FLOP D	D-1 36	P DIP 16: 77/77	53C	COMP GBC	FIELD	030C	2250 / 7 10,174,500:			
74174	FLIP-FLOP D	D-1 36	P DIP 16: 77/78	63C	DSPY GBC	FIELD	040C 55XPWR:	22802 / 22 29,642,600:			
74174	FLIP-FLOP D	D-1 36	P DIP 16: 78/79	63C	DSPY GBC	FIELD	040C 55XPWR:	31694 / 8 41,202,200:			
74175	FLIP-FLOP D	D-1 24	P DIP 16: 77/79	40C	COMP GB	FIELD	025C	1 / 0 19,234:			
74175	FLIP-FLOP D	D-1 24	P DIP 16: 77/79	40C	COMP GB	FIELD	025C	2 / 0 39,760:			
74175	FLIP-FLOP D	D-1 24	P DIP 16: 76/78	40C	COMP GBC	FIELD	025C	3 / 0 31,104:			
74175	FLIP-FLOP D	D-1 24	P DIP 16: 76/78	40C	COMP GBC	FIELD	025C	3 / 0 16,632:			
74175	FLIP-FLOP D	D-1 24	P DIP 16: 76/78	40C	COMP GBC	FIELD	025C	30 / 1 302,400:			
74175	FLIP-FLOP D	D-1 24	P DIP 16: 78/78	40C	COMP GBC	FIELD	025C	3 / 0 8,640:			
74175	FLIP-FLOP D	D-1 24	P DIP 16: 78/78	40C	COMP GBC	FIELD	025C	3 / 0 8,640:			

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VARIOUS
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RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
74175	FLIP-FLOP D	D-1 24	P DIP 16: 78/78	40C	COMP GBC	FIELD	025C	30 / 0	86,400
74175	FLIP-FLOP D	X 24	P DIP 16: 76/78	40C	COMP GBC	FIELD	025C	17 / 0	191,376
74175	FLIP-FLOP D	X 24	P DIP 16: 78/78	40C	COMP GBC	FIELD	025C	17 / 0	48,960
74180	GENERATOR	D 14	H DIP 14: 77/79	42C	COMP GB	FIELD	025C	11 / 0	211,574
74180	GENERATOR	D 14	H DIP 14: 77/79	42C	COMP GB	FIELD	025C	22 / 0	437,360
74180	GENERATOR	NONE 14	N/R DIP 14: 77/79	42C	COMP GB	FIELD	025C	5 / 0	96,170
74180	GENERATOR	NONE 14	N/R DIP 14: 77/79	42C	COMP GB	FIELD	025C	10 / 0	198,800
74181	LOGIC UNIT ARITHMETIC	D 63	H DIP 24: 77/79	57C	COMP GB	FIELD	025C	4 / 0	76,936
74181	LOGIC UNIT ARITHMETIC	D-1 63	P DIP 24: 77/79	57C	COMP GB	FIELD	025C	4 / 0	76,936
74181	LOGIC UNIT ARITHMETIC	D-1 63	P DIP 24: 77/79	57C	COMP GB	FIELD	025C	8 / 0	159,040
74181	LOGIC UNIT ARITHMETIC	D-1 63	P DIP 24: 77/78	72C	DSPY GBC	FIELD	040C 55%PWR	1573 / 0	2,044,900
74181	LOGIC UNIT ARITHMETIC	D-1 63	P DIP 24: 78/79	72C	DSPY GBC	FIELD	040C 55%PWR	1644 / 0	2,137,200
74182	GENERATOR	D 19	H DIP 16: 77/79	41C	COMP GB	FIELD	025C	2 / 0	38,468
74182	GENERATOR	D 19	H DIP 16: 77/79	41C	COMP GB	FIELD	025C	4 / 0	79,520
74182	GENERATOR	D-1 19	P DIP 16: 77/78	58C	DSPY GBC	FIELD	040C 55%PWR	4 / 0	5,200
74190	COUNTER BCD	D-1 62	P DIP 16: 77/79	58C	COMP GB	FIELD	025C	1 / 0	19,234
74190	COUNTER BCD	D-1 62	P DIP 16: 77/79	58C	COMP GB	FIELD	025C	2 / 0	39,760
74191	COUNTER BINARY	D-1 60	P DIP 16: 77/79	58C	COMP GB	FIELD	025C	2 / 0	38,468
74191	COUNTER BINARY	D-1 60	P DIP 16: 77/79	58C	COMP GB	FIELD	025C	4 / 0	79,520
74192	COUNTER VOLTAGE	D-1 50	P DIP 16: 77/78	73C	DSPY GBC	FIELD	040C 55%PWR	20897 / 3	27,166,100
74192	COUNTER VOLTAGE	D-1 50	P DIP 16: 78/79	73C	DSPY GBC	FIELD	040C 55%PWR	33522 / 7	43,578,600
74193	COUNTER BINARY	D 48	H DIP 16: 77/79	55C	COMP GB	FIELD	025C	48 / 0	923,232
74193	COUNTER BINARY	D 48	H DIP 16: 77/79	55C	COMP GB	FIELD	025C	96 / 0	1,908,480

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
74193	COUNTER BINARY	D-1 48	P DIP 16: 77/78	73C	DSPY GBC	FIELD	040C 55XPWR	8869 / 5 11,529,700			
74193	COUNTER BINARY	D-1 48	P DIP 16: 78/79	73C	DSPY GBC	FIELD	040C 55XPWR	5488 / 1 7,134,400			
74193	COUNTER BINARY	D-1 48	P DIP 16: 76/78	58C	COMP GBC	FIELD	025C	6 / 0 33,264			
74193	COUNTER BINARY	D-1 48	P DIP 16: 78/78	58C	COMP GBC	FIELD	025C	6 / 0 17,280			
74193	COUNTER BINARY	NONE 48	N/R DIP 16: 77/79	58C	COMP GB	FIELD	025C	7 / 0 134,638			
74193	COUNTER BINARY	NONE 48	N/R DIP 16: 77/79	58C	COMP GB	FIELD	025C	14 / 0 278,320			
7420	GATE	D 2	H DIP 14: 77/79	27C	COMP GB	FIELD	025C	19 / 0 365,446			
7420	GATE	D 2	H DIP 14: 77/79	27C	COMP GB	FIELD	025C	28 / 4 556,640	2263/ 1		
7420	GATE	D-1 2	P DIP 14: 76/78	27C	COMP GBC	FIELD	025C	10 / 0 100,800			
7420	GATE	D-1 2	P DIP 14: 78/78	27C	COMP GBC	FIELD	025C	10 / 0 28,800			
7420	GATE	D-1 2	P DIP 14: 77/78	42C	DSPY GBC	FIELD	040C 55XPWR	45567 / 13 59,237,100			
7420	GATE	D-1 2	P DIP 14: 78/79	42C	DSPY GBC	FIELD	040C 55XPWR	48495 / 11 63,043,500			
7420	GATE	NONE 2	N/R DIP 14: 77/79	27C	COMP GB	FIELD	025C	11 / 0 19,234			
7420	GATE	NONE 2	N/R DIP 14: 77/79	27C	COMP GB	FIELD	025C	26 / 0 516,880			
7423	GATE EXPANDABLE	D-1 2	P DIP 16: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	8711 / 3 11,324,300			
7423	GATE EXPANDABLE	D-1 2	P DIP 16: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	12893 / 4 16,760,900			
7425	GATE	D-1 2	P DIP 14: 77/78	45C	DSPY GBC	FIELD	040C 55XPWR	21477 / 14 27,920,100			
7425	GATE	D-1 2	P DIP 14: 78/79	45C	DSPY GBC	FIELD	040C 55XPWR	24199 / 3 31,458,700			
74251	MULTIPLEXER	D-1 17	P DIP 16: 76/78	42C	COMP GBC	FIELD	025C	10 / 0 100,800			
74251	MULTIPLEXER	D-1 17	P DIP 16: 78/78	42C	COMP GBC	FIELD	025C	10 / 0 28,800			
74259	LATCH ADDRESSABLE	D-1 59	P DIP 16: 76/78	54C	COMP GBC	FIELD	025C	9 / 0 92,160			
74259	LATCH ADDRESSABLE	D-1 59	P DIP 16: 76/78	54C	COMP GBC	FIELD	025C	6 / 0 62,208			
74259	LATCH ADDRESSABLE	D-1 59	P DIP 16: 78/78	54C	COMP GBC	FIELD	025C	9 / 0 25,920			

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VARIOUS
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OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO.: /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
74259	LATCH ADDRESSABLE	D-1 59	P DIP 16: 78/78	54C	COMP GBC	FIELD	025C	6 / 0	17,280:
7427	GATE	D-1 3	P DIP 14: 76/78	32C	COMP GBC	FIELD	025C	3 / 0	16,632:
7427	GATE	D-1 3	P DIP 14: 78/78	32C	COMP GBC	FIELD	025C	3 / 0	8,640:
7427	GATE	D-1 3	P DIP 14: 77/78	47C	DSPY GBC	FIELD	040C 55XPWR	15819 / 8	20,564,700:
7427	GATE	D-1 3	P DIP 14: 78/79	47C	DSPY GBC	FIELD	040C 55XPWR	23138 / 3	30,079,400:
74279	LATCH RS	D-1 8	P DIP 16: 76/78	35C	COMP GBC	FIELD	025C	3 / 0	31,104:
74279	LATCH RS	D-1 8	P DIP 16: 78/78	35C	COMP GBC	FIELD	025C	3 / 0	8,640:
7428	BUFFER	D-1 4	P DIP 14: 77/77	42C	COMM GBC	FIELD	030C	2250 / 14	10,174,500:
7428	BUFFER	D-1 4	P DIP 14: 77/78	52C	DSPY GBC	FIELD	040C 55XPWR	159 / 0	206,700:
7428	BUFFER	D-1 4	P DIP 14: 78/79	52C	DSPY GBC	FIELD	040C 55XPWR	315 / 0	409,500:
74298	MULTIPLEXER	D-1 51	P DIP 16: 76/78	45C	COMP GBC	FIELD	025C	3 / 0	30,720:
74298	MULTIPLEXER	D-1 51	P DIP 16: 76/78	45C	COMP GBC	FIELD	025C	9 / 0	93,600:
74298	MULTIPLEXER	D-1 51	P DIP 16: 78/78	45C	COMP GBC	FIELD	025C	3 / 0	8,640:
74298	MULTIPLEXER	D-1 51	P DIP 16: 78/78	45C	COMP GBC	FIELD	025C	9 / 0	25,920:
7430	GATE	D 1	H DIP 14: 77/79	26C	COMP GB	FIELD	025C	1 / 0	19,234:
7430	GATE	D-1 1	P DIP 14: 77/78	41C	DSPY GBC	FIELD	040C 55XPWR	48657 / 10	63,254,100:
7430	GATE	D-1 1	P DIP 14: 78/79	41C	DSPY GBC	FIELD	040C 55XPWR	57288 / 18	74,474,400:
7430	GATE	NONE 1	N/R DIP 14: 77/79	26C	COMP GB	FIELD	025C	56 / 0	1,077,104:
7430	GATE	NONE 1	N/R DIP 14: 77/79	26C	COMP GB	FIELD	025C	110 / 0	2,186,800:
7430	GATE	X 1	P DIP 14: 76/78	26C	COMP GBC	FIELD	025C	17 / 0	191,376:
7430	GATE	X 1	P DIP 14: 78/78	26C	COMP GBC	FIELD	025C	17 / 0	48,960:
7432	GATE	D-1 4	P DIP 14: 76/78	35C	COMP GBC	FIELD	025C	30 / 0	302,400:
7432	GATE	D-1 4	P DIP 14: 78/78	35C	COMP GBC	FIELD	025C	30 / 0	86,400:

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MTEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
7432	GATE	D-1 4	P DIP 14: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR:	46764 / 9 60,793,200:			
7432	GATE	D-1 4	P DIP 14: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR:	59316 / 7 77,110,800:			
7433	BUFFER	D-1 4	P DIP 14: 76/78	35C	COMP GBC	FIELD	025C	3 / 0 16,632:			
74367	INTERFACE BUS DRIVER	D-1 8	P DIP 16: 78/79	70C	DSPY GBC	FIELD	040C 55XPWR:	4294 / 2 5,582,200:			
74367	INTERFACE BUS DRIVER	D-1 8	P DIP 16: 76/78	58C	COMP GBC	FIELD	025C	18 / 0 184,320:			
74367	INTERFACE BUS DRIVER	D-1 8	P DIP 16: 76/78	58C	COMP GBC	FIELD	025C	21 / 0 218,400:			
74367	INTERFACE BUS DRIVER	D-1 8	P DIP 16: 76/78	58C	COMP GBC	FIELD	025C	6 / 0 62,208:			
74367	INTERFACE BUS DRIVER	D-1 8	P DIP 16: 76/78	58C	COMP GBC	FIELD	025C	20 / 0 201,600:			
74367	INTERFACE BUS DRIVER	D-1 8	P DIP 16: 78/78	58C	COMP GBC	FIELD	025C	18 / 0 51,840:			
74367	INTERFACE BUS DRIVER	D-1 8	P DIP 16: 78/78	58C	COMP GBC	FIELD	025C	21 / 0 60,480:			
74367	INTERFACE BUS DRIVER	D-1 8	P DIP 16: 78/78	58C	COMP GBC	FIELD	025C	6 / 0 17,280:			
74367	INTERFACE BUS DRIVER	D-1 8	P DIP 16: 78/78	58C	COMP GBC	FIELD	025C	20 / 0 57,600:			
74368	INTERFACE BUS DRIVER	D-1 8	P DIP 16: 77/78	70C	DSPY GBC	FIELD	040C 55XPWR:	2111 / 0 2,744,300:			
74368	INTERFACE BUS DRIVER	D-1 8	P DIP 16: 78/79	70C	DSPY GBC	FIELD	040C 55XPWR:	10771 / 0 14,002,300:			
74368	INTERFACE BUS DRIVER	D-1 8	P DIP 16: 76/78	55C	COMP GBC	FIELD	025C	3 / 0 31,200:			
74368	INTERFACE BUS DRIVER	D-1 8	P DIP 16: 76/78	55C	COMP GBC	FIELD	025C	9 / 0 93,312:			
74368	INTERFACE BUS DRIVER	D-1 8	P DIP 16: 78/78	55C	COMP GBC	FIELD	025C	3 / 0 8,640:			
74368	INTERFACE BUS DRIVER	D-1 8	P DIP 16: 78/78	55C	COMP GBC	FIELD	025C	9 / 0 25,920:			
7437	BUFFER	D-1 4	P DIP 14: 77/78	32C	COMP GBC	FIELD	020C	6 / 0 67,578:			
7438	BUFFER	D-1 4	P DIP 14: 76/78	36C	COMP GBC	FIELD	025C	3 / 0 30,720:			
7438	BUFFER	D-1 4	P DIP 14: 76/78	36C	COMP GBC	FIELD	025C	30 / 0 302,400:			
7438	BUFFER	D-1 4	P DIP 14: 78/78	36C	COMP GBC	FIELD	025C	3 / 0 8,640:			
7438	BUFFER	D-1 4	P DIP 14: 78/78	36C	COMP GBC	FIELD	025C	30 / 0 86,400:			

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
7438	BUFFER	D-1 4	P DIP 14 77/77	41C	COMM GBC	FIELD	030C	15750 / 41 71,221,500:		
7438	BUFFER	D-1 4	P DIP 14 77/78	51C	DSPY GBC	FIELD	040C 55XPWR	51872 / 29 67,433,600:		
7438	BUFFER	D-1 4	P DIP 14 78/79	51C	DSPY GBC	FIELD	040C 55XPWR	75879 / 34 98,642,700:		
7440	BUFFER	D 2	H DIP 14 77/79	30C	COMP GB	FIELD	025C	1 / 0 19,234:		
7440	BUFFER	D 2	H DIP 14 77/79	30C	COMP GB	FIELD	025C	2 / 0 30,760:		
7440	BUFFER	D-1 2	P DIP 14 77/78	46C	DSPY GBC	FIELD	040C 55XPWR	8971 / 0 11,662,300:		
7440	BUFFER	D-1 2	P DIP 14 78/79	46C	DSPY GBC	FIELD	040C 55XPWR	7593 / 1 9,870,900:		
7440	BUFFER	NONE 2	N/R DIP 14 77/79	31C	COMP GB	FIELD	025C	41 / 0 785,594:		
7440	BUFFER	NONE 2	N/R DIP 14 77/79	31C	COMP GB	FIELD	025C	4 / 0 79,520:		
7441	INTERFACE DECODER/DRIVER	D-1 N/R	P DIP 16 77/78	53C	DSPY GBC	FIELD	040C 55XPWR	1330 / 0 1,729,000:		
7441	INTERFACE DECODER/DRIVER	D-1 N/R	P DIP 16 78/79	53C	DSPY GBC	FIELD	040C 55XPWR	1375 / 30 1,787,500:		
7442	DECODER BCD/DECIMAL	D 18	H DIP 16 77/79	38C	COMP GB	FIELD	025C	5 / 0 96,170:		
7442	DECODER BCD/DECIMAL	D 18	H DIP 16 77/79	38C	COMP GB	FIELD	025C	10 / 0 198,800:		
7442	DECODER BCD/DECIMAL	D-1 18	P DIP 16 77/78	34C	COMP GBC	FIELD	020C	6 / 0 67,578:		
7442	DECODER BCD/DECIMAL	D-1 18	P DIP 16 77/78	54C	DSPY GBC	FIELD	040C 55XPWR	43696 / 20 56,804,800:		
7442	DECODER BCD/DECIMAL	D-1 18	P DIP 16 78/79	54C	DSPY GBC	FIELD	040C 55XPWR	47152 / 20 61,297,600:		
7442	DECODER BCD/DECIMAL	NONE 18	N/R DIP 16 77/79	39C	COMP GB	FIELD	025C	2 / 0 38,468:		
7442	DECODER BCD/DECIMAL	NONE 18	N/R DIP 16 77/79	39C	COMP GB	FIELD	025C	4 / 0 79,520:		
7442	DECODER BCD/DECIMAL	X 18	P DIP 16 78/78	39C	COMP GBC	FIELD	025C	10 / 0 28,800:		
7445	INTERFACE DECODER/DRIVER	D 18	H DIP 16 77/79	44C	COMP GB	FIELD	025C	40 / 0 769,360:		
7445	INTERFACE DECODER/DRIVER	D 18	H DIP 16 77/79	44C	COMP GB	FIELD	025C	80 / 0 1,590,400:		
7445	INTERFACE DECODER/DRIVER	D-1 18	P DIP 16 77/79	46C	COMP GB	FIELD	025C	3 / 0 57,702:		
7445	INTERFACE DECODER/DRIVER	D-1 18	P DIP 16 77/79	46C	COMP GB	FIELD	025C	6 / 0 119,280:		

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
7445	INTERFACE DECODER/DRIVER	D-1 18	P DIP 76/78	16 :	46C :	COMP GBC	FIELD :	025C :	20 / 0 201,600		
7445	INTERFACE DECODER/DRIVER	D-1 18	P DIP 78/78	16 :	46C :	COMP GBC	FIELD :	025C :	20 / 0 57,600		
7450	GATE EXPANDABLE	D-1 6	P DIP 77/78	14 :	43C :	DSPY GBC	FIELD :	040C :	55ZPWR: 15684 / 5 20,389,200		
7450	GATE EXPANDABLE	D-1 6	P DIP 78/79	14 :	43C :	DSPY GBC	FIELD :	040C :	55ZPWR: 17650 / 4 22,945,000		
7451	GATE	D 6	H DIP 77/79	14 :	28C :	COMP GB	FIELD :	025C :	7 / 0 134,638		
7451	GATE	D-1 6	P DIP 76/78	14 :	28C :	COMP GBC	FIELD :	025C :	20 / 0 201,600		
7451	GATE	D-1 6	P DIP 78/78	14 :	28C :	COMP GBC	FIELD :	025C :	20 / 0 57,600		
7451	CATE	D-1 6	P DIP 77/78	14 :	43C :	DSPY GBC	FIELD :	040C :	55ZPWR: 14640 / 3 19,032,000		
7451	GATE	D-1 6	P DIP 78/79	14 :	43C :	DSPY GBC	FIELD :	040C :	55ZPWR: 12693 / 0 16,500,900		
7451	GATE	NONE 6	N/R DIP 77/79	14 :	28C :	COMP GB	FIELD :	025C :	187 / 0 3,596,758		
7451	GATE	NONE 6	N/R DIP 77/79	14 :	28C :	COMP GB	FIELD :	025C :	327 / 0 7,395,360		
7453	GATE EXPANDABLE	D-1 5	P DIP 77/78	14 :	43C :	DSPY GBC	FIELD :	040C :	55ZPWR: 7761 / 0 10,089,300		
7453	GATE EXPANDABLE	D-1 5	P DIP 78/79	14 :	43C :	DSPY GBC	FIELD :	040C :	55ZPWR: 8032 / 1 10,441,600		
7454	GATE	D-1 5	P DIP 77/78	14 :	43C :	DSPY GBC	FIELD :	040C :	55ZPWR: 10610 / 0 13,793,000		
7454	GATE	D-1 5	P DIP 78/79	14 :	43C :	DSPY GBC	FIELD :	040C :	55ZPWR: 11100 / 4 14,430,000		
7472	FLIP-FLOP JK	D-1 8	P DIP 77/79	14 :	31C :	COMP GB	FIELD :	025C :	10 / 0 198,800		
7472	FLIP-FLOP JK	D-1 8	P DIP 77/79	14 :	31C :	COMP GB	FIELD :	025C :	8 / 0 159,040		
7472	FLIP-FLOP JK	NONE 8	N/R DIP 77/79	14 :	31C :	COMP GB	FIELD :	025C :	6 / 0 115,404		
7472	FLIP-FLOP JK	NONE 8	N/R DIP 77/79	14 :	31C :	COMP GB	FIELD :	025C :	12 / 0 238,560		
7473	FLIP-FLOP JK	D 16	H DIP 77/79	14 :	35C :	COMP GB	FIELD :	025C :	18 / 0 346,212		
7473	FLIP-FLOP JK	D 16	H DIP 77/79	14 :	35C :	COMP GB	FIELD :	025C :	3 / 0 57,702		
7473	FLIP-FLOP JK	D 16	H DIP 77/79	14 :	35C :	COMP GB	FIELD :	025C :	4 / 0 79,520		
7473	FLIP-FLOP JK	D-1 16	P DIP 77/78	14 :	50C :	DSPY GBC	FIELD :	040C :	55ZPWR: 32148 / 10 41,792,400		

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
7473	FLIP-FLOP JK	D-1 16	P DIP 14: 78/79	50C	DSPY GBC	FIELD	040C 55TPWR:	26011 / 5 33,814,300:			
7473	FLIP-FLOP JK	NONE 16	N/R DIP 14: 77/79	35C	COMP GB	FIELD	025C	38 / 0 730,892:			
7473	FLIP-FLOP JK	NONE 16	N/R DIP 14: 77/79	35C	COMP GB	FIELD	025C	76 / 0 1,510,880:			
7474	FLIP-FLOP D	D 12	H DIP 14: 77/79	35C	COMP GB	FIELD	025C	60 / 0 115,404:			
7474	FLIP-FLOP D	D 12	H DIP 14: 77/79	35C	COMP GB	FIELD	025C	120 / 0 2,385,600:			
7474	FLIP-FLOP D	D-1 12	P DIP 14: 76/78	35C	COMP GBC	FIELD	025C	3 / 0 31,200:			
7474	FLIP-FLOP D	D-1 12	P DIP 14: 76/78	35C	COMP GBC	FIELD	025C	3 / 1 31,104:			
7474	FLIP-FLOP D	D-1 12	P DIP 14: 76/78	35C	COMP GBC	FIELD	025C	70 / 0 705,600:			
7474	FLIP-FLOP D	D-1 12	P DIP 14: 78/78	35C	COMP GBC	FIELD	025C	3 / 0 8,640:			
7474	FLIP-FLOP D	D-1 12	P DIP 14: 78/78	35C	COMP GBC	FIELD	025C	3 / 0 8,640:			
7474	FLIP-FLOP D	D-1 12	P DIP 14: 78/78	35C	COMP GBC	FIELD	025C	70 / 0 201,600:			
7474	FLIP-FLOP D	D-1 12	P DIP 14: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR:	99999 / 70 218,809,500:			
						FIELD		68316 / 0			
7474	FLIP-FLOP D	D-1 12	P DIP 14: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR:	15578 / 0 20,251,400:			
7474	FLIP-FLOP D	D-1 12	P DIP 14: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR:	99999 / 72 246,567,100:			
						FIELD		89668 / 0			
7474	FLIP-FLOP D	X 12	P DIP 14: 76/78	35C	COMP GBC	FIELD	025C	50 / 0 765,340:			
7474	FLIP-FLOP D	X 12	P DIP 14: 76/78	35C	COMP GBC	FIELD	025C	51 / 0 574,128:			
7474	FLIP-FLOP D	X 12	P DIP 14: 78/78	35C	COMP GBC	FIELD	025C	50 / 1 144,000:			
7474	FLIP-FLOP D	X 12	P DIP 14: 78/78	35C	COMP GBC	FIELD	025C	51 / 0 146,880:			
7475	LATCH BISTABLE	D 24	H DIP 16: 77/79	39C	COMP GB	FIELD	025C	8 / 0 153,872:			
7475	LATCH BISTABLE	D 24	H DIP 16: 77/79	39C	COMP GB	FIELD	025C	146 / 0 2,902,480:			
7475	LATCH BISTABLE	D-1 24	P DIP 16: 77/78	54C	DSPY GBC	FIELD	040C 55XPWR:	60987 / 17 79,283,100:			

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					MVEF REPORT NO.:	
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	/QTY FAILED			
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS				
7475	LATCH BISTABLE	D-1 24	P DIP 16: 78/79	54C	DSPY GBC	FIELD	040C 55XPWR:	74108 / 13	96,340,400:			
7475	LATCH BISTABLE	NONE 24	N/R DIP 16: 77/79	39C	COMP GB	FIELD	025C	4 / 0	76,936:			
7475	LATCH BISTABLE	X 24	P DIP 16: 76/78	39C	COMP GBC	FIELD	025C	40 / 0	612,272:			
7475	LATCH BISTABLE	X 24	P DIP 16: 76/78	39C	COMP GBC	FIELD	025C	84 / 0	776,448:			
7475	LATCH BISTABLE	X 24	P DIP 16: 78/78	39C	COMP GBC	FIELD	025C	40 / 0	115,200:			
7475	LATCH BISTABLE	X 24	P DIP 16: 78/78	39C	COMP GBC	FIELD	025C	84 / 0	241,920:			
7476	FLIP-FLOP JK	D-1 16	P DIP 16: 77/78	50C	DSPY GBC	FIELD	040C 55XPWR:	19062 / 11	24,780,600:			
7476	FLIP-FLOP JK	D-1 16	P DIP 16: 78/79	50C	DSPY GBC	FIELD	040C 55XPWR:	23180 / 8	30,134,000:			
7476	FLIP-FLOP JK	NONE 16	N/R DIP 16: 77/79	35C	COMP GB	FIELD	025C	3 / 0	57,702:			
7476	FLIP-FLOP JK	NONE 16	N/R DIP 16: 77/79	35C	COMP GB	FIELD	025C	6 / 0	119,280:			
7483	ADDER FULL	X 36	P DIP 16: 76/78	59C	COMP GBC	FIELD	025C	10 / 0	99,168:			
7483	ADDER FULL	X 36	P DIP 16: 78/78	59C	COMP GBC	FIELD	025C	10 / 0	28,800:			
7486	GATE	D-1 4	P DIP 14: 77/78	57C	DSPY GBC	FIELD	040C 55XPWR:	45968 / 15	59,758,400:			
7486	GATE	D-1 4	P DIP 14: 78/79	57C	DSPY GBC	FIELD	040C 55XPWR:	53602 / 15	69,682,600:			
7490/7490A	COUNTER DECADE	NONE 15	N/R DIP 14: 77/79	35C	COMP GB	FIELD	025C	2 / 0	38,468:			
7490/7490A	COUNTER DECADE	NONE 15	N/R DIP 14: 77/79	35C	COMP GB	FIELD	025C	4 / 0	79,520:			
7490A	COUNTER DECADE	D-1 15	P DIP 14: 77/78	57C	DSPY GBC	FIELD	040C 55XPWR:	84488 / 30	10,983,440:			
7490A	COUNTER DECADE	D-1 15	P DIP 14: 78/79	57C	DSPY GBC	FIELD	040C 55XPWR:	99999 / 25	134,313,400:			
						FIELD		3319 / 0				
7493	COUNTER BINARY	D 25	H DIP 14: 77/79	41C	COMP GB	FIELD	025C	11 / 0	211,574:			
7493	COUNTER BINARY	D 25	H DIP 14: 77/79	41C	COMP GB	FIELD	025C	22 / 0	4,413,360:			
7493	COUNTER BINARY	D-1 25	P DIP 14: 78/79	71C	COMM AIF	FIELD		100 / 0	30,888:			
7493	COUNTER BINARY	D-1 25	P DIP 14: 77/78	56C	DSPY GBC	FIELD	040C 55XPWR:	34413 / 8	44,736,900:			

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO.: /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
7493	COUNTER BINARY	D-1 25	P DIP 14: 78/79	56C	DSKY GBC	FIELD	040C 55XPWR	39923 / 4 51,899,900		
7493	COUNTER BINARY	NONE 25	N/R DIP 14: 77/79	41C	COMP GB	FIELD	025C	40 / 0 769,360		
7493	COUNTER BINARY	NONE 25	N/R DIP 14: 77/79	41C	COMP GB	FIELD	025C	84 / 1 1,669,920	2264/ 1	
7493	COUNTER BINARY	X 25	P DIP 14: 76/78	41C	COMP GBC	FIELD	025C	17 / 0 191,376		
7493	COUNTER BINARY	X 25	P DIP 14: 76/78	41C	COMP GRC	FIELD	025C	20 / 0 198,336		
7493	COUNTER BINARY	X 25	P DIP 14: 78/78	41C	COMP GBC	FIELD	025C	17 / 0 48,960		
7493	COUNTER BINARY	X 25	P DIP 14: 78/78	41C	COMP GBC	FIELD	025C	20 / 0 57,600		
7494	SHIFT REG	NONE 48	N/R DIP 16: 77/79	43C	COMP GB	FIELD	025C	30 / 0 577,020		
7494	SHIFT REG	NONE 48	N/R DIP 16: 77/79	43C	COMP GB	FIELD	025C	64 / 0 1,272,320		
7495	SHIFT REG	D 37	H DIP 14: 77/79	45C	COMP GB	FIELD	025C	33 / 0 634,722		
7495	SHIFT REG	D 37	H DIP 14: 77/79	45C	COMP GB	FIELD	025C	66 / 1 1,312,080	2265/ 1	
7495	SHIFT REG	NONE 37	N/R DIP 14: 77/79	45C	COMP GB	FIELD	025C	3 / 0 19,234		
7496	SHIFT REG	D 39	H DIP 16: 77/79	50C	COMP GB	FIELD	025C	27 / 0 519,318		
7496	SHIFT REG	D 39	H DIP 16: 77/79	50C	COMP GB	FIELD	025C	54 / 0 1,073,520		
7496	SHIFT REG	D-1 39	P DIP 16: 77/79	50C	COMP GB	FIELD	025C	20 / 0 384,680		
7496	SHIFT REG	D-1 39	P DIP 16: 77/79	50C	COMP GB	FIELD	025C	40 / 0 795,200		
7496	SHIFT REG	D-1 39	P DIP 16: 77/78	65C	DSKY GBC	FIELD	040C 55XPWR	10398 / 10 13,517,400		
7496	SHIFT REG	D-1 39	P DIP 16: 78/79	65C	DSKY GBC	FIELD	040C 55XPWR	12108 / 9 15,740,400		
7496	SHIFT REG	NONE 39	N/R DIP 16: 77/79	50C	COMP GB	FIELD	025C	23 / 0 442,382		
7496	SHIFT REG	NONE 39	N/R DIP 16: 77/79	50C	COMP GB	FIELD	025C	50 / 0 994,000		
7497	MULTIPLIER BINARY	X 54	P DIP 16: 76/78	60C	COMP GBC	FIELD	025C	10 / 0 153,068		
7497	MULTIPLIER BINARY	X 54	P DIP 16: 78/78	60C	COMP GBC	FIELD	025C	10 / 0 28,800		
8200	SHIFT REG	C-1 62	H FPK 24: 75/78	107C	RADR AUF	FIELD		1881 / 0 2,144,340		

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
8202	SHIFT REG	C-1	H FPK 24	107C	RADR	FIELD		6402 / 3	2198/ 1	
		66	75/78		AUF			7,296,780		
									2199/ 1	
									2200/ 1	
8233	MULTIPLEXER	C-1	H FPK 16	91C	RADR	FIELD		3729 / 0		
		14	75/78		AUF			4,251,060		
8241	GATE	C-1	H FPK 14	98C	RADR	FIELD		1947 / 0		
		20	75/78		AUF			2,219,580		
8242	GATE	X	H FPK 14	46C	COMP	FIELD	025C	21 / 0		
		20	76/78		GBC			194,112		
8242	GATE	X	H FPK 14	46C	COMP	FIELD	025C	21 / 0		
		20	78/78		GBC			60,480		
8260	LOGIC UNIT ARITHMETIC	C-1	H FPK 24	107C	RADR	FIELD		264 / 0		
		56	75/78		AUF			300,960		
8260	LOGIC UNIT ARITHMETIC	D-1	P DIP 24	53C	COMP	FIELD	025C	21 / 0		
		56	76/78		GBC			215,040		
8260	LOGIC UNIT ARITHMETIC	D-1	P DIP 24	53C	COMP	FIELD	025C	21 / 0		
		56	78/78		GBC			60,480		
8263	MULTIPLEXER	C-1	H FPK 24	104C	RADR	FIELD		1353 / 0		
		34	75/78		AUF			1,542,420		
8266	MULTIPLEXER	D-1	P DIP 16	60C	DSPY	FIELD	040C 55XPWR	3421 / 0		
		18	77/78		GBC			4,447,300		
8266	MULTIPLEXER	D-1	P DIP 16	60C	DSPY	FIELD	040C 55XPWR	6094 / 2		
		18	78/79		GBC			7,922,200		
8280	COUNTER DECADE	D-1	P DIP 14	57C	DSPY	FIELD	040C 55XPWR	7273 / 2		
		44	77/78		GBC			9,454,900		
8280	COUNTER DECADE	D-1	P DIP 14	57C	DSPY	FIELD	040C 55XPWR	8368 / 1		
		44	78/79		GBC			10,878,400		
8284	COUNTER	C-1	H FPK 14	107C	RADR	FIELD		66 / 0		
		48	75/78		AUF			75,240		
8284	COUNTER	C-1	H FPK 14	107C	RADR	FIELD		2112 / 0		
		48	75/78		AUF			2,407,680		
8307	DECODER	D-1	P DIP 16	57C	DSPY	FIELD	040C 55XPWR	9930 / 13		
		35	77/78		GBC			12,909,000		
8307	DECODER	D-1	P DIP 16	57C	DSPY	FIELD	040C 55XPWR	12392 / 13		
		35	78/79		GBC			16,109,600		
8308	LATCH	D-1	P DIP 24	63C	DSPY	FIELD	040C 55XPWR	28 / 0		
		56	77/78		GBC			36,400		
8308	LATCH	D-1	P DIP 24	63C	DSPY	FIELD	040C 55XPWR	60 / 0		
		56	78/79		GBC			78,000		
8309	MULTIPLEXER	D-1	P DIP 16	55C	DSPY	FIELD	040C 55XPWR	8559 / 0		
		16	77/78		GBC			11,126,700		
8309	MULTIPLEXER	D-1	P DIP 16	55C	DSPY	FIELD	040C 55XPWR	11800 / 5		
		16	78/79		GBC			15,340,000		

DIGITAL DEVICE DATA

VARIOUS
TTL:MANUFACTURER
:OPERATIONAL TYPE

RELIABILITY ANALYSIS CENTER

PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
8312	MULTIPLEXER	D-1 17	P DIP 16: 77/78	54C	DSPY GBC	FIELD	040C 55%PWR:	4406 / 3 5,727,800:	
8312	MULTIPLEXER	D-1 17	P DIP 16: 78/79	54C	DSPY GBC	FIELD	040C 55%PWR:	4496 / 3 5,844,800:	
8601	FLIP-FLOP MONOSTABLE	D-1 8	P DIP 14: 77/78	51C	DSPY GBC	FIELD	040C 55%PWR:	12232 / 5 15,901,600:	
8601	FLIP-FLOP MONOSTABLE	D-1 8	P DIP 14: 78/79	51C	DSPY GBC	FIELD	040C 55%PWR:	16430 / 4 21,359,000:	
9001	FLIP-FLOP JK	D 10	H DIP 14: 78/79	66C	COMM AIF	FIELD		100 / 0 30,888:	
9016	INVERTER	B-2/N 6	H DIP 14: 75/78	61C	RADR AIF	FIELD		104 / 0 17,148:	
9016	INVERTER	B-2/N 6	H DIP 14: 75/78	76C	RADR AUF	FIELD		58 / 0 13,562:	
9016	INVERTER	B-2/N 6	H DIP 14: 75/78	76C	RADR AUF	FIELD		24 / 0 48:	
9016	INVERTER	B-2/N 6	H DIP 14: 75/78	76C	RADR AUF	FIELD		403 / 2 74,542:	2322/ 1 2323/ 1
9016	INVERTER	B-2/N 6	H DIP 14: 75/78	76C	RADR AUF	FIELD		578 / 0 59,024:	
9016	INVERTER	B-2/N 6	H DIP 14: 75/78	76C	RADR AUF	FIELD		4278 / 0 924,324:	
9016	INVERTER	B-2/N 6	H DIP 14: 75/78	76C	RADR AUF	FIELD		168 / 0 15,792:	
9016	INVERTER	B-2/N 6	H DIP 14: 75/78	76C	RADR AUF	FIELD		54 / 0 11,160:	
9016	INVERTER	B-2/N 6	H DIP 14: 75/78	76C	RADR AUF	FIELD		2 / 0 2:	
9024	FLIP-FLOP JK	C-1 N/R	H FPK 16: 75/78	85C	RADR AUF	FIELD		66 / 0 75,240:	
9024	FLIP-FLOP JK	C-1 N/R	H FPK 16: 75/78	85C	RADR AUF	FIELD		5808 / 4 6,618,810:	2201/ 1 2202/ 1 2203/ 2
9300	SHIFT REG	B-2/N 48	H DIP 16: 75/78	99C	RADR AUF	FIELD		374 / 0 44,121:	
9300	SHIFT REG	B-2/N 48	H DIP 16: 75/78	99C	RADR AUF	FIELD		434 / 0 80,276:	
9300	SHIFT REG	B-2/N 48	H DIP 16: 75/78	99C	RADR AUF	FIELD		595 / 1 60,760:	2324/ 1
9300	SHIFT REG	B-2/N 48	H DIP 16: 75/78	99C	RADR AUF	FIELD		1922 / 0 415,276:	

DIGITAL DEVICE DATA

VARIOUS TTL		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
: PART : NO.	: DEVICE : FUNCTION	: SCR.N. : CLASS	: PACKAGE/ : PINS	: JCT.* : TEMP.	: EQUIP. : TYPE	: DATA : CLASS.	: STRESS : LEVEL	: #TESTED/ : #FAILED	: MPEF REPORT NO. : /QTY FAILED	
:	: CIRCUIT : FUNCTION	: NO. : GATES	: TEST : DATE	:	: APPL. : ENV.	: TEST : TYPE	:	: PART : HOURS	:	
: 9300	: SHIFT REG	: C-1	: H FPK 16:	: 106C	: RADR	: FIELD	:	: 3795 / 0	:	
:	:	: 40	: 75/78	:	: AUF	:	:	: 4,326,300:	:	
: 9300	: SHIFT REG	: C-1	: H FPK 16:	: 106C	: RADR	: FIELD	:	: 2838 / 1	: 2204/ 1	
:	:	: 40	: 75/78	:	: AUF	:	:	: 3,234,600:	:	
: 9301	: DECODER	: B-2/N	: H DIP 16:	: 83C	: RADR	: FIELD	:	: 136 / 0	:	
:	: BCD/DECIMAL	: 18	: 75/78	:	: AUF	:	:	: 16,044:	:	
: 9301	: DECODER	: B-2/N	: H DIP 16:	: 83C	: RADR	: FIELD	:	: 12 / 0	:	
:	: BCD/DECIMAL	: 18	: 75/78	:	: AUF	:	:	: 24:	:	
: 9301	: DECODER	: B-2/N	: H DIP 16:	: 83C	: RADR	: FIELD	:	: 93 / 0	:	
:	: BCD/DECIMAL	: 18	: 75/78	:	: AUF	:	:	: 17,202:	:	
: 9301	: DECODER	: B-2/N	: H DIP 16:	: 83C	: RADR	: FIELD	:	: 51 / 0	:	
:	: BCD/DECIMAL	: 18	: 75/78	:	: AUF	:	:	: 5,208:	:	
: 9301	: DECODER	: B-2/N	: H DIP 16:	: 83C	: RADR	: FIELD	:	: 1209 / 0	:	
:	: BCD/DECIMAL	: 18	: 75/78	:	: AUF	:	:	: 261,222:	:	
: 9301	: DECODER	: B-2/N	: H DIP 16:	: 83C	: RADP	: FIELD	:	: 6 / 0	:	
:	: BCD/DECIMAL	: 18	: 75/78	:	: AUF	:	:	: 564:	:	
: 9301	: DECODER	: B-2/N	: H DIP 16:	: 83C	: RADR	: FIELD	:	: 63 / 0	:	
:	: BCD/DECIMAL	: 18	: 75/78	:	: AUF	:	:	: 13,020:	:	
: 9301	: DECODER	: B-2	: H FPK 16:	: 41C	: COMM	: FIELD	: 025C	: 9 / 0	:	
:	: BCD/DECIMAL	: 18	: 75/78	:	: GT	:	:	: 20,919:	:	
: 9301	: DECODER	: C-1	: H FPK 16:	: 86C	: RADR	: FIELD	:	: 33 / 0	:	
:	: BCD/DECIMAL	: 18	: 75/78	:	: AUF	:	:	: 37,620:	:	
: 9301	: DECODER	: C-1	: H FPK 16:	: 86C	: RADR	: FIELD	:	: 924 / 0	:	
:	: BCD/DECIMAL	: 18	: 75/78	:	: AUF	:	:	: 1,053,360:	:	
: 9301	: DECODER	: C-1	: H FPK 16:	: 86C	: RADR	: FIELD	:	: 1089 / 0	:	
:	: BCD/DECIMAL	: 18	: 75/78	:	: AUF	:	:	: 1,241,460:	:	
: 9301	: DECODER	: NONE	:N/R DIP 16:	: 41C	: COMP	: FIELD	: 025C	: 6 / 0	:	
:	: BCD/DECIMAL	: 18	: 77/79	:	: GB	:	:	: 115,404:	:	
: 9301	: DECODER	: NONE	:N/R DIP 16:	: 41C	: COMP	: FIELD	: 025C	: 12 / 0	:	
:	: BCD/DECIMAL	: 18	: 77/79	:	: GB	:	:	: 238,560:	:	
: 9309	: MULTIPLEXER	: J-B	: H DIP 16:	:	: RADR	: RELDEN	:	: 1500 / 0	:	
:	:	: 16	: 77/77	:	: AIU	: OPERATE	:	: 48,315:	:	
: 9309	: MULTIPLEXER	: J-B	: H DIP 16:	: 39C	: COMP	: RELDEN	: 025C	: 24 / 0	:	
:	:	: 16	: 78/78	:	: GT	:	:	: 8,436:	:	
: 9309	: MULTIPLEXER	: B-2/N	: H DIP 16:	: 87C	: RADR	: FIELD	:	: 372 / 0	:	
:	:	: 16	: 75/78	:	: AUF	:	:	: 80,376:	:	
: 9309	: MULTIPLEXER	: C-1	: H FPK 16:	: 87C	: RADR	: FIELD	:	: 5610 / 4	: 2205/ 3	
:	:	: 16	: 75/78	:	: AUF	:	:	: 6,389,760:	:	
:	:	:	:	:	:	:	:	:	: 2206/ 1	
: 9309	: MULTIPLEXER	: C-1	: H FPK 16:	: 87C	: RADR	: FIELD	:	: 2640 / 1	: 2207/ 1	
:	:	: 16	: 75/78	:	: AUF	:	:	: 3,007,500:	:	
: 9310	: COUNTER	: J-B	: H DIP 16:	: 54C	: COMP	: RELDEN	: 025C	: 21 / 0	:	
:	:	: 60	: 78/78	:	: GT	:	:	: 7,382:	:	
: 9311	: DECODER/DEMUTIPLEX	: B-2/N	: H DIP 24:	: 67C	: RADR	: FIELD	:	: 8 / 0	:	
:	:	: 25	: 75/78	:	: AUF	:	:	: 1,536:	:	

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER			
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MPEF REPORT NO. /QTY FAILED
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS	
9311	DECODER/DEMUTIPLEX	B-2/N 25	H DIP 75/78	24 67C	RADR AIF	FIELD		20 / 0 1,505	
9311	DECODER/DEMUTIPLEX	B-2/N 25	H DIP 75/78	24 67C	RADR AIF	FIELD		26 / 0 4,287	
9311	DECODER/DEMUTIPLEX	B-2/N 25	H DIP 75/78	24 82C	RADR AUF	FIELD		68 / 0 6,944	
9311	DECODER/DEMUTIPLEX	B-2 25	H FPK 75/78	24 41C	COMM GT	FIELD	025C	18 / 0 41,838	
9312	MULTIPLEXER	J-B 17	H DIP 77/77	16 37C	RADR AIU	WELDEM OPERATE		1595 / 0 51,375	
9312	MULTIPLEXER	J-B 17	H DIP 78/78	16 37C	COMP GT	RELD	025C	60 / 0 21,090	
9312	MULTIPLEXER	B-2/N 17	H DIP 75/78	16 85C	RADR AUF	FIELD		2 / 0 2	
9312	MULTIPLEXER	B-2 17	H FPK 75/78	16 35C	COMM GT	FIELD	025C	36 / 0 83,676	
9312	MULTIPLEXER	C-1 17	H FPK 75/78	16 85C	RADR AUF	FIELD		33 / 1 36,780	2208/ 1
9312	MULTIPLEXER	C-1 17	H FPK 75/78	16 85C	RADR AUF	FIELD		5775 / 1 6,583,050	2209/ 1
9312	MULTIPLEXER	C-1 17	H FPK 75/78	16 85C	RADR AUF	FIELD		4257 / 0 4,852,980	
9312	MULTIPLEXER	D 17	H DIP 77/79	16 37C	COMP GB	FIELD	025C	1 / 0 19,234	
9312	MULTIPLEXER	D 17	H DIP 77/79	16 37C	COMP GB	FIELD	025C	2 / 0 39,760	
9314	LATCH	J-B 26	H DIP 78/78	16 41C	COMP GT	RELD	025C	42 / 0 14,763	
9314	LATCH	C-1 26	H FPK 75/78	16 90C	RADR AUF	FIELD		66 / 0 75,240	
9316	COUNTER BINARY	J-B 57	H DIP 78/78	16 53C	COMP GT	RELD	025C	81 / 0 28,471	
9316	COUNTER BINARY	B-2/N 57	H FPK 75/78	16 89C	RADR AIF	FIELD		100 / 0 7,525	
9316	COUNTER BINARY	B-2/N 57	H DIP 75/78	16 98C	RADR AUF	FIELD		93 / 0 17,202	
9316	COUNTER BINARY	B-2/N 57	H DIP 75/78	16 98C	RADR AUF	FIELD		646 / 0 65,968	
9316	COUNTER BINARY	B-2/N 57	H DIP 75/78	16 98C	RADR AUF	FIELD		2945 / 0 636,310	
9316	COUNTER BINARY	B-2/N 57	H DIP 75/78	16 98C	RADR AUF	FIELD		2 / 0 2	
9316	COUNTER BINARY	B-2 57	H FPK 75/78	16 59C	COMM GT	FIELD	025C	54 / 0 125,514	
9316	COUNTER BINARY	C-1 57	H FPK 75/78	16 89C	RADR AUF	FIELD		4719 / 0 5,379,660	

DIGITAL DEVICE DATA

VARIOUS TTL		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER					
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO. /QTY FAILED		
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS			
9316	COUNTER BINARY	C-1 57	H FPK 16: 75/78	89C	RADR AUF	FIELD		4158 / 1 4,739,820	2210/ 1		
9316	COUNTER BINARY	NONE 57	N/R DIP 16: 77/79	59C	COMP GB	FIELD	025C	2 / 0 38,468			
9316	COUNTER BINAPT	NONE 57	N/R DIP 16: 77/79	59C	COMP GB	FIELD	025C	4 / 0 79,520			
9318	ENCODER	C-1 24	H FPK 16: 75/78	95C	RADR AUF	FIELD		33 / 0 37,620			
9318	ENCODER	C-1 24	H FPK 16: 75/78	95C	RADR AUF	FIELD		165 / 0 188,100			
9322	MULTIPLEXER	J-B 19	H DIP 16: 78/78	39C	COMP GT	RELDEN	025C	18 / 0 6,327			
9322	MULTIPLEXER	B-2/N 19	H DIP 16: 76/77	81C	RADR AU	RELDEN TCVPC	-054C 071C 6CY 2. 27HZ	209 / 0 10,032			
9322	MULTIPLEXER	B-1 19	H DIP 16: 75/78	84C	COMP AUF	FIELD		132 / 0 150,480			
9324	COMPARATOR	B-2 32	H DIP 16: 77/77		RADR AIU	RELDEN OPERATE		1615 / 0 52,003			
9334	LATCH ADDRESSABLE	D-1 59	P DIP 16: 76/78	54C	COMP GBC	FIELD	025C	6 / 0 33,264			
9334	LATCH ADDRESSABLE	D-1 59	P DIP 16: 76/78	54C	COMP GBC	FIELD	025C	10 / 0 100,800			
9334	LATCH ADDRESSABLE	D-1 59	P DIP 16: 78/78	54C	COMP GBC	FIELD	025C	6 / 0 17,280			
9334	LATCH ADDRESSABLE	D-1 59	P DIP 16: 78/78	54C	COMP GBC	FIELD	025C	10 / 0 28,800			
956	BUFFER	D-1 2	P DIP 16: 77/78	54C	DSPY GBC	FIELD	040C 55XPWR	5863 / 0 7,621,900			
956	BUFFER	D-1 2	P DIP 16: 78/79	54C	DSPY GBC	FIELD	040C 55XPWR	13640 / 0 17,732,000			
9600	FLIP-FLOP MONOSTABLE	B-2/N 11	H DIP 14: 76/77	81C	RADR AU	RELDEN TCVPC	-054C 071C 6CY 2. 27HZ	627 / 0 30,096			
9601	FLIP-FLOP MONOSTABLE	B-2/N 8	H DIP 14: 75/78	66C	RADR AIF	FIELD		80 / 0 6,020			
9601	FLIP-FLOP MONOSTABLE	B-2/N 8	H DIP 14: 75/78	66C	RADR AIF	FIELD		12 / 0 3,472			
9601	FLIP-FLOP MONOSTABLE	B-2/N 8	H DIP 14: 75/78	66C	RADR AIF	FIELD		338 / 0 55,731			
9601	FLIP-FLOP MONOSTABLE	B-2/N 8	H DIP 14: 75/78	81C	RADR AUF	FIELD		135 / 1 16,326	2325/ 1		
9601	FLIP-FLOP MONOSTABLE	B-2/N 8	H DIP 14: 75/78	81C	RADR AUF	FIELD		36 / 0 4,831			
9601	FLIP-FLOP MONOSTABLE	B-2/N 8	H DIP 14: 75/78	81C	RADR AUF	FIELD		87 / 0 20,343			
9601	FLIP-FLOP MONOSTABLE	B-2/N 8	H DIP 14: 75/78	81C	RADR AUF	FIELD		8 / 0 16			

DIGITAL DEVICE DATA

VARIOUS TTL		MANUFACTURER OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER				
PART NO.	DEVICE FUNCTION	SCRN. CLASS	PACKAGE/ PINS	JCT.* TEMP.	EQUIP. TYPE	DATA CLASS.	STRESS LEVEL	#TESTED/ #FAILED	MFEF REPORT NO.: /QTY FAILED	
	CIRCUIT FUNCTION	NO. GATES	TEST DATE		APPL. ENV.	TEST TYPE		PART HOURS		
9601	FLIP-FLOP MONOSTABLE	B-2/N 8	H DIP 14: 75/78	81C	RADR AUF	FIELD		93 / 0 17,202		
9601	FLIP-FLOP MONOSTABLE	B-2/N 8	H DIP 14: 75/78	81C	RADR AUF	FIELD		663 / 0 67,704		
9601	FLIP-FLOP MONOSTABLE	B-2/N 8	H DIP 14: 75/78	81C	RADR AUF	FIELD		93 / 0 20,094		
9601	FLIP-FLOP MONOSTABLE	B-2/N 8	H DIP 14: 75/78	81C	RADR AUF	FIELD		145 / 0 16,570		
9601	FLIP-FLOP MONOSTABLE	B-2/N 8	H DIP 14: 75/78	81C	RADR AUF	FIELD		6 / 0 2,583		
9601	FLIP-FLOP MONOSTABLE	B-2/N 8	H DIP 14: 75/78	81C	RADR AUF	FIELD		14 / 0 436		
9601	FLIP-FLOP MONOSTABLE	B-2/N 8	H DIP 14: 75/78	81C	RADR AUF	FIELD		13 / 0 13		
9601	FLIP-FLOP MONOSTABLE	B-1/JB 8	H DIP 14: 77/79	35C	RADR GF	FIELD	025C	7 / 0 95,760		
9601	FLIP-FLOP MONOSTABLE	B-1/JB 8	H DIP 14: 79/79	35C	RADR GF	FIELD	025C	7 / 0 30,240		
9601	FLIP-FLOP MONOSTABLE	B-1 8	H FPK 14: 75/78	83C	COMP AUF	FIELD		33 / 0 37,620		
9601	FLIP-FLOP MONOSTABLE	C-1 8	H FPK 14: 75/78	83C	RADR AUF	FIELD		363 / 3 415,020	2215/ 2 2216/ 1	
9601	FLIP-FLOP MONOSTABLE	C-1 8	H FPK 14: 75/78	83C	RADR AUF	FIELD		99 / 0 112,860		
9601	FLIP-FLOP MONOSTABLE	C-1 8	H FPK 14: 75/78	83C	RADR AUF	FIELD		495 / 0 564,300		
9602	FLIP-FLOP MONOSTABLE	B-2/N 14	H DIP 16: 76/77	81C	RADR AU	RELDEN TCVPC	-054C 071C 6CY 2. 27HZ	418 / 0 20,064		
9602	FLIP-FLOP MONOSTABLE	B-1 14	H DIP 16: 75/78	86C	COMP AUF	FIELD		99 / 0 112,860		
9602	FLIP-FLOP MONOSTABLE	B-2 14	H DIP 16: 77/77		RADR AIU	RELDEN OPERATE		150 / 0 4,830		
9602	FLIP-FLOP MONOSTABLE	C-1 14	H FPK 16: 75/78	86C	RADR AUF	FIELD		165 / 0 188,100		
9602	FLIP-FLOP MONOSTABLE	D 14	H DIP 16: 77/78	51C	COMM CF	FIELD	025C	N/R / 0 62,950		
9602	FLIP-FLOP MONOSTABLE	D 14	H DIP 16: 79/79	51C	COMM GF	FIELD	025C	N/R / 0 356,226		
9602	FLIP-FLOP MONOSTABLE	D-1 14	P DIP 16: 77/78	38C	COMM GBC	FIELD	020C	6 / 0 67,578		
9602	FLIP-FLOP MONOSTABLE	NONE 14	N/R DIP 16: 77/79	40C	COMP GB	FIELD	025C	6 / 0 115,404		
9602	FLIP-FLOP MONOSTABLE	NONE 14	N/R DIP 16: 77/79	40C	COMP GB	FIELD	025C	12 / 0 238,560		

DIGITAL DEVICE DATA

VARIOUS TTL		:MANUFACTURER :OPERATIONAL TYPE				RELIABILITY ANALYSIS CENTER						
: PART : NO.	: DEVICE : FUNCTION	: SCRN. : CLASS	: PACKAGE/ : PINS	: JCT.* : TEMP.	: EQUIP. : TYPE	: DATA : CLASS.	: STRESS : LEVEL	: #TESTED/ : #FAILED	: MFEF REPORT NO.: : /QTY FAILED			
: :	: CIRCUIT : FUNCTION	: NO. : GATES	: TEST : DATE	: :	: APPL. : ENV.	: TEST : TYPE	: :	: PART : HOURS	: :			
: 9614	: INTERFACE	: B-1	: H DIP 16:	: 72C	: COMM	: FIELD	:	: 15 / 1 :	:			
:	: LINE DRIVER	: 6	: 76/77	:	: AIF	:	:	: 10,227:	:			
: 9614	: INTERFACE	: B-1	: H DIP 16:	: 72C	: COMM	: FIELD	:	: 14 / 0 :	:			
:	: LINE DRIVER	: 6	: 76/77	:	: AIF	:	:	: 7,056:	:			
: 9614	: INTERFACE	: B-2	: H DIP 16:	:	: RADR	: RELEDER	:	: 1380 / 0 :	:			
:	: LINE DRIVER	: 6	: 77/77	:	: AIU	: OPERATE	:	: 44,436:	:			
: 9614	: INTERFACE	: C-1	: H FPK 16:	: 87C	: RADR	: FIELD	:	: 429 / 9 :	: 1949/ 1 :			
:	: LINE DRIVER	: 6	: 75/78	:	: AUF	:	:	: 484,560:	:			
:	:	:	:	:	:	:	:	:	: 1948/ 1 :			
:	:	:	:	:	:	:	:	:	: 1947/ 1 :			
:	:	:	:	:	:	:	:	:	: 1946/ 1 :			
:	:	:	:	:	:	:	:	:	: 1945/ 1 :			
:	:	:	:	:	:	:	:	:	: 1944/ 1 :			
:	:	:	:	:	:	:	:	:	: 1943/ 1 :			
:	:	:	:	:	:	:	:	:	: 1942/ 2 :			
: 9614	: INTERFACE	: C-1	: H FPK 16:	: 87C	: RADR	: FIELD	:	: 165 / 0 :	:			
:	: LINE DRIVER	: 6	: 75/78	:	: AUF	:	:	: 188,100:	:			
: 9614	: INTERFFACE	: D	: H DIP 16:	: 72C	: COMB	: FIELD	:	: 40 / 0 :	:			
:	: LINE DRIVER	: 6	: 77/78	:	: AIT	:	:	: 380,000:	:			
: 9614	: INTERFACE	: D	: H DIP 16:	: 41C	: COMP	: FIELD	: 025C	: 1 / 0 :	:			
:	: LINE DRIVER	: 6	: 77/79	:	: GB	:	:	: 19,234:	:			
: 9614	: INTERFACE	: D	: H DIP 16:	: 41C	: COMP	: FIELD	: 025C	: 2 / 0 :	:			
:	: LINE DRIVER	: 6	: 77/79	:	: GB	:	:	: 39,760:	:			
: 9614	: INTERFACE	: D	: H DIP 16:	: 41C	: COMP	: FIELD	: 025C	: 32 / 0 :	:			
:	: LINE DRIVER	: 6	: 77/79	:	: GB	:	:	: 636,160:	:			
: 9614	: INTERFACE	: D	: H DIP 16:	: 41C	: COMM	: FIELD	: 025C	: 2 / 0 :	:			
:	: LINE DRIVER	: 6	: 78/79	:	: GF	:	:	: 26,000:	:			

**MICROCIRCUIT DEVICE RELIABILITY
DIGITAL FAILURE RATE DATA**

SECTION 4

DIGITAL FAILURE ANALYSIS DATA SUMMARIZATION

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DIGITAL FAILURE ANALYSIS DATA SUMMARIZATION

The data tabulated within this section represents the summarization of reported digital SSI/MSI microcircuit verified failures which have occurred during various levels of testing as derived from the detailed data listings of Section 5. The tables included herein have been compiled to help illustrate the relative distribution of those factors commonly contributing to device failure in digital SSI/MSI microcircuits. The data have been grouped according to the hierarchy of failure descriptors (failure indicator, failure mode, failure defect, failure defect cause and failure activating stresses). (See Appendix A for an illustration of the failure event record structure).

This data summarization section is presented in two parts, first sorted by operation type (TTL, ECL, CMOS, etc.) and then by data source (LIFE, FIELD, RELDEM, etc.). Part one, therefore, contains failure descriptor distributions for a given operational type, giving an overall view of the failure characteristics of a set of devices utilizing the same operating technology. The second part of the data summaries gives the appropriate failure descriptor distributions as a function of the data source. This allows insight into the failure characteristics induced by actual field usage vs. life testing or reliability demonstration testing.

In the case of the part two summaries or distributions, not all of the failure descriptors have been used to generate separate tables due to the lack of sufficiently detailed failure analysis data. The available data in some cases, after being sorted and qualified, was simply too small to warrant a separate table. Summaries which contained less than five failure records for either part one or part two were not presented.

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The ensuing narrative, along with Figure 17, will provide an example and an explanation of a detailed failure descriptor summary.

Column 1 of Figure 17 represents the verbal description of the failure indicator, as supplied by the reporting agency, at up to three levels of detail. For example, OPEN is comprised of VERIFIED OPEN, which in turn breaks down into UNKNOWN, INPUT, OUTPUT, etc. Similarly, SHORT is comprised of VERIFIED SHORT and INTERMITTENT SHORT, while VERIFIED SHORT breaks down into UNKNOWN, INPUT, OUTPUT, etc., and INTERMITTENT SHORT breaks down into INPUT.

Column 2 represents the quantity totals for each level, with each Level 1 category being defined as the sum of the Level 2 quantities beneath it, and each Level 2 category being defined as the sum of the Level 3 quantities beneath it. From Figure 17, the quantity total for SHORT (Level 1) is the sum of the quantity totals for VERIFIED SHORT (Level 2) and INTERMITTENT SHORT (Level 2), whereas the quantity total for VERIFIED SHORT (Level 2) is the sum of the quantity totals for UNKNOWN, INPUT, OUTPUT, SUPPLY (all Level 3) and INTERMITTENT SHORT is the sum of the quantity totals for INPUT (Level 3).

Column 3 relates the percent contribution of each level with respect to the total quantity failed for the next higher level of structure. Calculation of the percent values at the (A) points of Figure 17 is based upon the quantity totals of each Level 1 indicator divided by the sum of the quantity totals of all of the Level 1 indicators. For example, the quantity totals for DEGRADED (9795) divided by the sum of the quantity totals for OPEN (8), SHORT (28), DEGRADED (9795), FUNCTIONAL ANOMALY (2942) and MECHANICAL ANOMALY (1785), then multiplied by 100, yields the result that 67% of all failure events reporting failure indicators were due to a degraded condition. Carrying the example further, 99% of those devices reported as degraded exhibited a PARAMETER OUT-OF-TOLERANCE condition ($9725 \div (53+17+9725)$, then multiply by 100). This type of calculation represents the percents found at the (B) points. Finally, of

DEVICE TECHNOLOGY: BIPOLAR

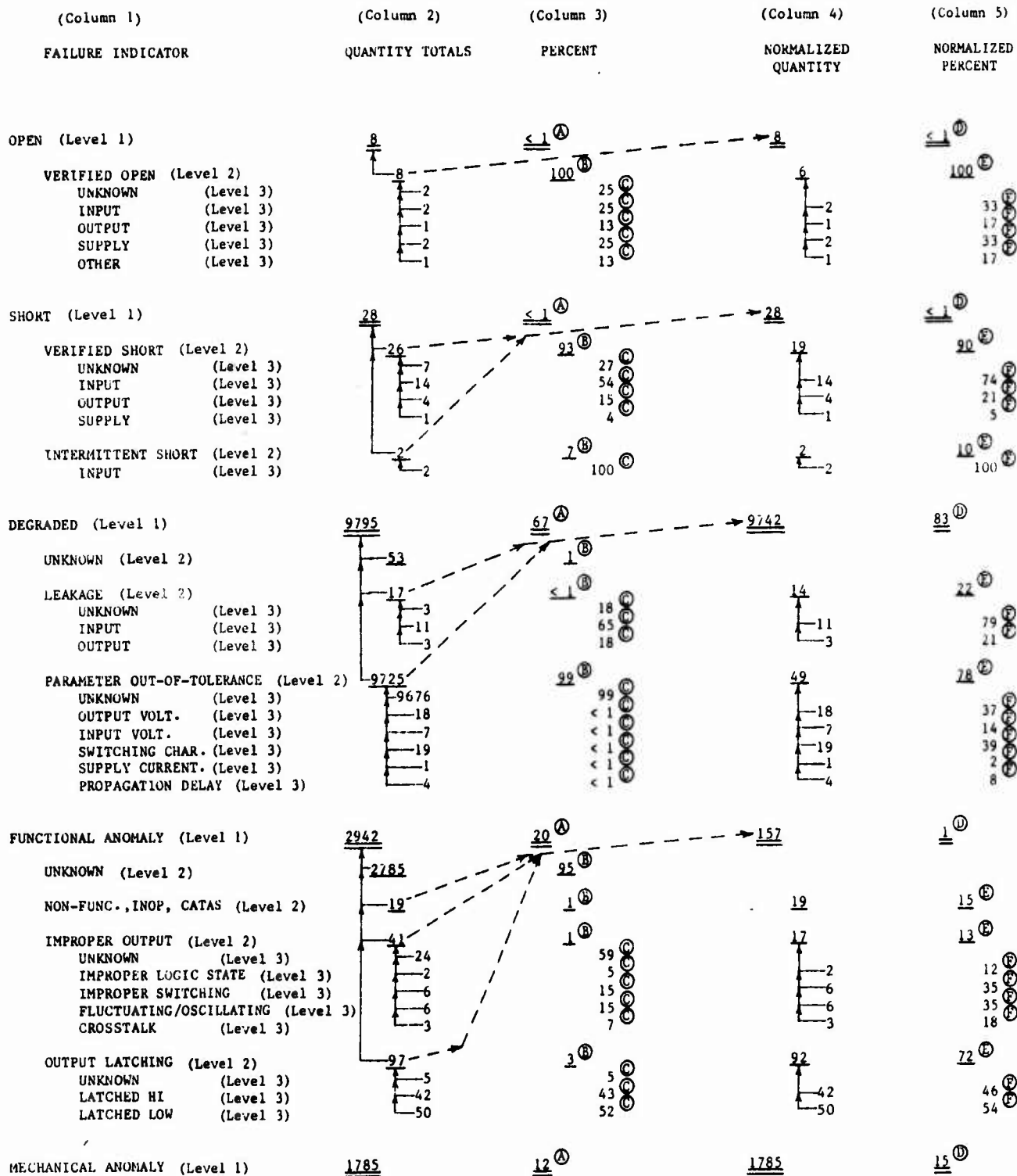


FIGURE 17: Illustration of Failure Indicator Hierarchy Structure

those devices reported as degraded due to out-of-tolerance parameters, less than 1% (<1) failed due to out-of-tolerance output voltage ($18 \div (9676+18+7+19+1+4)$, then multiply by 100). These calculations represent the point \textcircled{C} values.

Column 4, the NORMALIZED QUANTITY values, requires some care in interpretation. The intent of a normalized value is to eliminate unknown entities from the calculation process, thus providing a more realistic representation of the relative distributions of the remaining known entities. For a complex hierarchy structure, however, unknowns can appear at a number of levels. For the FAILURE INDICATOR tables, an UNKNOWN can be located at Level 2 or 3, while for the FAILURE MODE tables, an UNKNOWN may appear at Level 2, 3 or 4. Returning to Figure 17, the NORMALIZED QUANTITY for each level represents the sum of the known entities on the next lowest level only. Therefore, the FUNCTIONAL ANOMALY (Level 1) normalized quantity is based on the known Level 2 entities of NON-FUNC., INOP, CATAS, IMPROPER OUTPUT, and OUTPUT LATCHING and thus equals the sum of the QUANTITY TOTALS (from Column 2) for each of these categories ($19+41+97=157$). The Level 2 totals are the sum of the known Level 3 quantities within that category. That is, the IMPROPER OUTPUT normalized quantity of 17 is the sum of the IMPROPER LOGIC STATE ("2" from Column 4), IMPROPER SWITCHING ("6" from Column 4), FLUCTUATING/OSCILLATING ("6" from Column 4) and CROSSTALK ("3" from Column 4) normalized quantities. Notice that, for all of the UNKNOWN category levels, no entries appear in Columns 4 and 5. The Level 1 normalized quantities are not based on the sum of the Level 2 normalized quantities due to the normalization process itself. Eliminating the UNKNOWN normalized quantities at Level 3 will affect the normalized sums indicated at Level 2, but the UNKNOWN Level 3 entity is a known entity in relation to the appropriate Level 1 normalized quantity. To clarify with an example from Figure 17, although the UNKNOWN Level 3 quantity is normalized out of the Level 2 IMPROPER OUTPUT normalized quantity totals, this Level 3 UNKNOWN must still be considered as an IMPROPER OUTPUT quantity (Level 2) when considered in summing the normalized quantity for FUNCTIONAL ANOMALY (Level 1). Similarly, the

Level 3 UNKNOWN under OUTPUT LATCHING (Level 2) must still be considered as OUTPUT LATCHING in relation to the normalized quantity for FUNCTIONAL ANOMALY (Level 1).

Column 5 represents the NORMALIZED PERCENT contributions for each level of structure based upon the normalized quantity values of Column 4. The point (D) percentages represent the NORMALIZED QUANTITY of a specific Level 1 category, divided by the sum of all of the normalized quantities, then multiplied by 100. From Figure 17, the normalized quantity of 9742 for DEGRADED divided by the sum of normalized quantities for OPEN (8), SHORT (28), DEGRADED (9742), and FUNCTIONAL ANOMALY (157) means that failures reported as degraded represent 83% of all failures where an indicator was referenced. Level 2 normalized percents (reference points (E) on Figure 17) are based on the sum of the known indicator entities of Level 3 within each category (from Column 4). For example, IMPROPER OUTPUT represents a normalized 13% of FUNCTIONAL ANOMALY failures as derived from the calculation of 17 divided by the sum of 19 plus 17 plus 92, the result of which is multiplied by 100 to convert to percent. The value of 19+17+92 represents the Level 2 normalized quantity and is not indicated within the table, i.e., the Level 1 normalized quantity may or may not be indicated as the sum of the Level 2 normalized quantities, depending on the presence of a Level 2 UNKNOWN quantity. Finally, the normalized percents of point (F) equal the selected Level 3 normalized quantity divided by the normalized quantity indicated at Level 2 of the appropriate group, multiplied by 100. Again, as an example, IMPROPER SWITCHING represents 35% of all failures reported as having defined IMPROPER OUTPUT malfunctions based on the calculation of 6 (IMPROPER SWITCHING normalized quantity) divided by 17 (IMPROPER OUTPUT normalized quantity), then multiplied by 100.

During the examination of these failure event distributions, the reader must keep in mind that these summarized results represent only those data which were reported subject to the constraints of the extent of failure analysis performed and the quantity of data supplied by each data

source. In other words, where a detailed failure analysis has pinpointed a failure indicator of VERIFIED OPEN, INPUT, a less rigorous analysis may report this indicator as DEGRADED or FUNCTIONAL ANOMALY. Therefore, the relative distributions provided herein should not be strictly defined in terms of individual user expectations when comparing his results with these tables. Similarly, the presentation of failure defect description distributions may be questionable in the absence of a direct reference to the appropriate failure defect cause or failure mode within the device (i.e., a cracked package seal or a cracked internal bond wire). The inclusion of these tables may be justified, however, in terms of their intuitive value for comparing process-related defects, such as masking faults or mismarked packages, with actual physics-of-failure causes, (e.g., voids caused by electromigration) and activating stresses, (e.g., broken wires/package due to mechanical or thermomechanical stresses).

The use of these tables, particularly the failure indicator tables, will be beneficial to those people who perform Failure Modes and Effects Criticality Analysis (FMECA) in the evaluation of systems design. Further information on these data summaries and distributions may be obtained by contacting the Reliability Analysis Center directly.

TABLE 22: FAILURE INDICATOR DISTRIBUTION
DEVICE TECHNOLOGY: CMOS

FAILURE INDICATOR	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
DEGRADED	[14]	(61)		
UNKNOWN	14	100		
FUNCTIONAL ANOMALY	[9]	(39)	[9]	(100)
NON-FUNC., INOP, CATAS	9	100	9	100

TABLE 23: FAILURE INDICATOR DISTRIBUTION
DEVICE TECHNOLOGY: DTL

FAILURE INDICATOR	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
SHORT	[4]	(100)	[4]	(100)
VERIFIED SHORT	4	100		
UNKNOWN	4	100		

TABLE 24: FAILURE INDICATOR DISTRIBUTION
DEVICE TECHNOLOGY: ECL

FAILURE INDICATOR	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
DEGRADED	[21]	(81)	[14]	(74)
UNKNOWN	7	33		
LEAKAGE	14	67		
UNKNOWN	14	100		
FUNCTIONAL ANOMALY	[5]	(19)	[5]	(26)
NON-FUNC., INOP, CATAS	5	100	5	100

TABLE 25: FAILURE MODE DISTRIBUTION
DEVICE TECHNOLOGY: ECL

FAILURE MODES	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
DIE	[18]	(100)	[16]	(100)
UNKNOWN	2	11		
METALIZATION	1	6		
UNKNOWN	1	100		
SURFACE	15	83	15	100

TABLE 26: FAILURE INDICATOR DISTRIBUTION
DEVICE TECHNOLOGY: HTTL

FAILURE INDICATOR	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
OPEN	[11]	(13)	[11]	(14)
VERIFIED OPEN	11	100		
UNKNOWN	11	100		
SHORT	[4]	(5)	[4]	(5)
VERIFIED SHORT	4	100		
UNKNOWN	4	100		
DEGRADED	[11]	(13)	[1]	(1)
UNKNOWN	10	91		
LEAKAGE	1	9		
UNKNOWN	1	100		
FUNCTIONAL ANOMALY	[57]	(66)	[57]	(75)
NON-FUNC., INOP, CATAS	57	100	57	100
MECHANICAL ANOMALY	[3]	(3)	[3]	(4)

TABLE 27: FAILURE MODE DISTRIBUTION
DEVICE TECHNOLOGY: HTTL

FAILURE MODES	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
DIE	[3]	(100)	[2]	(100)
UNKNOWN	1	33		
SURFACE	2	67	2	100

TABLE 28: FAILURE INDICATOR DISTRIBUTION
DEVICE TECHNOLOGY: LSTTL

FAILURE INDICATOR	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
SHORT	[1]	(14)	[1]	(14)
VERIFIED SHORT	1	100		
UNKNOWN	1	100		
DEGRADED	[3]	(43)	[3]	(43)
LEAKAGE	3	100		
UNKNOWN	3	100		
FUNCTIONAL ANOMALY	[3]	(43)	[3]	(43)
NON-FUNC., INOP, CATAS	2	67	2	67
IMPROPER OUTPUT	1	33	1	33
IMPROPER LOGIC STATE	1	100	1	100

TABLE 29: FAILURE MODE DISTRIBUTION
DEVICE TECHNOLOGY: LSTTL

FAILURE MODES	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
DIE	[4]	(67)	[4]	(67)
BULK ASPECTS DIFFUSION	1 1	25 100	1 1	25 100
SURFACE	3	75	3	75
INTERCONNECTS	[2]	(33)	[2]	(33)
WIREBOND UNKNOWN	2 2	100 100		

TABLE 30: FAILURE INDICATOR DISTRIBUTION
DEVICE TECHNOLOGY: STTL

FAILURE INDICATOR	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
OPEN	[1]	(8)	[1]	(14)
VERIFIED OPEN UNKNOWN	1 1	100 100		
DEGRADED	[6]	(50)	[1]	(14)
UNKNOWN	5	83		
LEAKAGE UNKNOWN	1 1	17 100		
FUNCTIONAL ANOMALY	[5]	(42)	[5]	(71)
NON-FUNC., IMOP, CATAS	4	80	4	80
OUTPUT LATCHING LATCHED HI	1 1	20 100	1 1	20 100

TABLE 31: FAILURE MODE DISTRIBUTION
DEVICE TECHNOLOGY: STTL

FAILURE MODES	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
DIE	[2]	(33)	[1]	(20)
UNKNOWN	1	50		
SURFACE	1	50	1	100
INTERCONNECTS	[4]	(67)	[4]	(80)
WIRE	2	50	2	100
WIREBOND UNKNOWN	2 2	50 100		

TABLE 32: FAILURE DEFECT DISTRIBUTION
DEVICE TECHNOLOGY: STTL

DEFECT DESCRIPTION	QUANTITY TOTALS	PERCENT
SHORT (MOC)	1	50
MELTED-FUSED	1	50

TABLE 33: FAILURE INDICATOR DISTRIBUTION
DEVICE TECHNOLOGY: TTL

FAILURE INDICATOR	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
OPEN	[16]	(8)	[16]	(10)
VERIFIED OPEN	16	100	5	100
UNKNOWN	11	69		
INPUT	3	19	3	60
OUTPUT	2	13	2	40
SHORT	[17]	(8)	[17]	(10)
VERIFIED SHORT	17	100	2	100
UNKNOWN	15	88		
OUTPUT	2	12	2	100
DEGRADED	[54]	(25)	[6]	(4)
UNKNOWN	48	89		
LEAKAGE	4	7		
UNKNOWN	4	100		
PARAMETER OUT-OF-TOLERANCE	2	4	1	100
UNKNOWN	1	50		
DYNAMIC CHAR.	1	50	1	100
FUNCTIONAL ANOMALY	[126]	(59)	[126]	(76)
NON-FUNC., INOP, CATAS	101	80	101	86
IMPROPER OUTPUT	8	6	1	1
UNKNOWN	7	88		
IMPROPER LOGIC STATE	1	13	1	100
OUTPUT LATCHING	5	4	4	3
UNKNOWN	1	20		
LATCHED HI	2	40	2	50
LATCHED LOW	2	40	2	50
INTERMITTENT	12	10	12	10

TABLE 34: FAILURE MODE DISTRIBUTION
DEVICE TECHNOLOGY: TTL

FAILURE MODES	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
DIE	[28]	(88)	[15]	(79)
UNKNOWN	13	46		
BULK ASPECTS	2	7	2	14
JUNCTION	1	50	1	50
DIFFUSION	1	50	1	50
METALIZATION	2	7	1	7
UNKNOWN	1	50		
BOND PAD	1	50	1	100
OXIDE/DIELECTRIC	3	11	3	21
GATE OXIDE/DIELECTRIC	3	100	3	100
SURFACE	8	29	8	57
INTERCONNECTS	[4]	(13)	[4]	(21)
WIRE	1	25	1	100
WIREBOND	3	75		
UNKNOWN	3	100		

TABLE 35: FAILURE DEFECT DISTRIBUTION
DEVICE TECHNOLOGY: TTL

DEFECT DESCRIPTION	QUANTITY TOTALS	PERCENT
BROKEN	2	8
CHANNEL	1	4
MASK FAULT	15	58
SHORT (MOC)	1	4
ZAPPED-EVAPORATED	2	8
FAULT (MOC)	1	4
FLASHOVER-ARC	2	8
PUNCH THROUGH	1	4
DISCOLORED	1	4

TABLE 36: FAILURE DEFECT CAUSE DISTRIBUTION
DEVICE TECHNOLOGY: TTL

DEFECT CAUSE	QUANTITY TOTALS	PERCENT
CONTAMINATION	1	25
THERMAL DIFFUSION	1	25
PROCESS FLAW	2	50

TABLE 37: FAILURE ACTIVATING STRESS - A
DEVICE TECHNOLOGY: TTL

ACTIVATING STRESS	QUANTITY TOTALS	PERCENT
ELECTRICAL OVERSTRESS	9	69
TEMPERATURE	1	8
THERMO-MECHANICAL STRESS	1	8
VOLTAGE STRESS	2	15

TABLE 38: FAILURE INDICATOR DISTRIBUTION
DEVICE TECHNOLOGY: ECL
SOURCE: LIFE

FAILURE INDICATOR	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
DEGRADED	[20]	(87)	[14]	(82)
UNKNOWN	6	30		
LEAKAGE	14	70		
UNKNOWN	14	100		
FUNCTIONAL ANOMALY	[3]	(13)	[3]	(18)
NON-FUNC., INOP, CATAS	3	100	3	100

TABLE 39: FAILURE MODE DISTRIBUTION
DEVICE TECHNOLOGY: ECL
SOURCE: LIFE

FAILURE MODES	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
DIE	[18]	(100)	[16]	(100)
UNKNOWN	2	11		
METALIZATION	1	6		
UNKNOWN	1	100		
SURFACE	15	83	15	100

TABLE 40: FAILURE INDICATOR DISTRIBUTION
 DEVICE TECHNOLOGY: HTTL
 SOURCE: FIELD

FAILURE INDICATOR	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
OPEN	[11]	(13)	[11]	(15)
VERIFIED OPEN	11	100		
UNKNOWN	11	100		
SHORT	[4]	(5)	[4]	(5)
VERIFIED SHORT	4	100		
UNKNOWN	4	100		
DEGRADED	[10]	(12)		
UNKNOWN	10	100		
FUNCTIONAL ANOMALY	[55]	(66)	[55]	(75)
NON-FUNC., INOP, CATAS	55	100	55	100
MECHANICAL ANOMALY	[3]	(4)	[3]	(4)

TABLE 41: FAILURE INDICATOR DISTRIBUTION
 DEVICE TECHNOLOGY: LSTTL
 SOURCE: LIFE

FAILURE INDICATOR	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
DEGRADED	[3]	(60)	[3]	(60)
LEAKAGE	3	100		
UNKNOWN	3	100		
FUNCTIONAL ANOMALY	[2]	(40)	[2]	(40)
NON-FUNC., INOP, CATAS	2	100	2	100

TABLE 42: FAILURE MODE DISTRIBUTION
 DEVICE TECHNOLOGY: LSTTL
 SOURCE: LIFE

FAILURE MODES	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
DIE	[3]	(60)	[3]	(60)
SURFACE	3	100	3	100
INTERCONNECTS	[2]	(40)	[2]	(40)
WIREBOND	2	100		
UNKNOWN	2	100		

TABLE 43: FAILURE INDICATOR DISTRIBUTION
 DEVICE TECHNOLOGY: STTL
 SOURCE: LIFE

FAILURE INDICATOR	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
DEGRADED	[5]	(56)	[1]	(10)
UNKNOWN	4	80		
LEAKAGE	1	20		
UNKNOWN	1	100		
FUNCTIONAL ANOMALY	[4]	(44)	[4]	(80)
NON-FUNC., INOP, CATAS	3	75	3	75
OUTPUT LATCHING	1	25	1	25
LATCHED HI	1	100	1	100

TABLE 44: FAILURE MODE DISTRIBUTION
 DEVICE TECHNOLOGY: STTL
 SOURCE: LIFE

FAILURE MODES	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
DIE	[2]	(33)	[1]	(20)
UNKNOWN	1	50		
SURFACE	1	50	1	100
INTERCONNECTS	[4]	(67)	[4]	(80)
WIRE	2	50	2	100
WIREBOND	2	50		
UNKNOWN	2	100		

TABLE 45: FAILURE INDICATOR DISTRIBUTION
 DEVICE TECHNOLOGY: TTL
 SOURCE: FIELD

FAILURE INDICATOR	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
OPEN	[10]	(10)	[10]	(12)
VERIFIED OPEN	10	100		
UNKNOWN	10	100		
SHORT	[6]	(6)	[6]	(7)
VERIFIED SHORT	6	100		
UNKNOWN	6	100		
DEGRADED	[12]	(13)		
UNKNOWN	12	100		
FUNCTIONAL ANOMALY	[68]	(71)	[68]	(81)
NON-FUNC., INOP, CATAS	63	93	63	100
IMPROPER OUTPUT	5	7		
UNKNOWN	5	100		

TABLE 46: FAILURE INDICATOR DISTRIBUTION
 DEVICE TECHNOLOGY: TTL
 SOURCE: LIFE

FAILURE INDICATOR	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
DEGRADED	[23]	(79)	[4]	(40)
UNKNOWN	19	83		
LEAKAGE	4	17		
UNKNOWN	4	100		
FUNCTIONAL ANOMALY	[6]	(21)	[6]	(60)
NON-FUNC., INOP, CATAS	6	100	6	100

TABLE 47: FAILURE MODE DISTRIBUTION
 DEVICE TECHNOLOGY: TTL
 SOURCE: LIFE

FAILURE MODES	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
DIE	[19]	(90)	[6]	(75)
UNKNOWN	13	68		
BULK ASPECTS	1	5	1	17
DIFFUSION	1	100	1	100
SURFACE	5	26	5	83
INTERCONNECTS	[2]	(10)	[2]	(25)
WIREBOND	2	100		
UNKNOWN	2	100		

TABLE 48: FAILURE INDICATOR DISTRIBUTION
 DEVICE TECHNOLOGY: TTL
 SOURCE: REL DEMO

FAILURE INDICATOR	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
OPEN	(1)	(3)	(1)	(6)
VERIFIED OPEN OUTPUT	1	100	1	100
SHORT	(4)	(12)	(4)	(22)
VERIFIED SHORT	4	100	2	100
UNKNOWN OUTPUT	2	50	2	100
DEGRADED	(16)	(47)		
UNKNOWN	16	100		
FUNCTIONAL ANOMALY	(13)	(38)	(13)	(72)
NON-FUNC., INOP, CATAS	7	54	7	64
IMPROPER OUTPUT	1	8		
UNKNOWN	1	100		
OUTPUT LATCHING	5	38	4	36
UNKNOWN	1	20		
LATCHED HI	2	40	2	50
LATCHED LOW	2	40	2	50

TABLE 49: FAILURE MODE DISTRIBUTION
 DEVICE TECHNOLOGY: TTL
 SOURCE: REL DEMO

FAILURE MODES	QUANTITY TOTALS	PERCENT	NORMALIZED QUANTITY	NORMALIZED PERCENT
DIE	(8)	(80)	(8)	(80)
BULK ASPECTS	1	13	1	14
JUNCTION	1	100	1	100
METALIZATION	2	25	1	14
UNKNOWN	1	50		
BOND PAD	1	50	1	100
OXIDE/DIELECTRIC	2	25	2	29
GATE OXIDE/DIELECTRIC	2	100	2	100
SURFACE	3	38	3	43
INTERCONNECTS	(2)	(20)	(2)	(20)
WIRE	1	50	1	100
WIREBOND	1	50		
UNKNOWN	1	100		

**MICROCIRCUIT DEVICE RELIABILITY
DIGITAL FAILURE RATE DATA**

SECTION 5

DIGITAL FAILURE EVENT DATA - DETAILED LISTINGS

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DIGITAL FAILURE EVENT DATA - DETAILED LISTINGS

Introduction

The Usage Guide and computerized listings of this final section relate directly to those line entries within Section 2 of this publication where failures have occurred and where sufficient failure analysis results have been reported to justify the generation of a Microcircuit Failure Event Record. Each failure event record contains specific information regarding individual device characteristics, environmental and test conditions at the time of failure and the exact nature of the failure itself.

The nature of each failure has been categorized to follow a structured hierarchy of failure phenomena. Each condition, defined in Appendix A on page 397, is outlined below:

Failure Indicator -	How microcircuit failed within circuit prior to destructive analysis (i.e., output locked high)
Failure Mode -	Physical location of failure within the microcircuit (i.e., metalization, oxide, package seal, etc.)
Failure Defect -	Description of physical condition existing at the appropriate failure modes (i.e., melted, evaporated, voids, etc.)
Failure Defect Cause -	The physical phenomena which caused the occurrence of the failure defect (i.e., electromigration, workmanship, manufacturing process, etc.)

Failure Activating Stress - The electrical/environmental parameter which may have introduced and/or accelerated the failure defect cause (i.e., humidity, temperature cycling, mechanical shock, voltage stress, etc.)

In addition, each failure event record may contain remarks which will further elaborate on device, test, environmental or failure information which may not appear elsewhere in the record. Hence, the reader is given the ability to correlate actual device test and field experience with its associated failure analysis results for large numbers and broad categories of microelectronic devices, enabling a clearer understanding of cause and effect criteria.

Those wishing a more extensive overview of failure mode or failure indicators distributions for digital SSI/MSI microcircuits may consult the RAC publication "Digital Evaluation and Failure Analysis Data" or else contact the Reliability Analysis Center directly.

As with Section 2, the reader is encouraged to spend a few moments reviewing the Usage Guide to this section in order to achieve familiarity with the format, abbreviations, and content of the computerized listings.

USAGE GUIDE
DIGITAL FAILURE ANALYSIS DATA

The description given below applies to the computer listings of Section 5. The circled numbers on the tabulation form below refer to the explanatory text which follows. A few minutes spent familiarizing oneself with the information supplied below will aid in the user's comprehension of the data contained herein.

MFEF REPORT NUMBER: ① MFEF REPORT DATE: ②

DATA SOURCE: ③ SOURCE: ④ DATA-TYPE: ⑤ APPLICATION ENV: ⑥

DEVICE FUNCTION: ⑦ CIRCUIT TYPE: ⑧ DATE CODE: ⑪

PART NUMBER: ⑨ PART MANUFACTURER: ⑩ COMPLEXITY: ⑭

DEVICE TECHNOLOGY: ⑫ SCREEN CLASS: ⑬ NUMBER OF PINS: ⑮

PACKAGE: ⑯ TIME TO DETECTION: ⑰ FAILURE MODE: ⑳

QUANTITY FAILED: ⑱ DEFECT CAUSE: ㉒

FAILURE INDICATOR: ㉓ ACTIVATING STRESS A: ㉔

DEFECT DESCRIPTION: ㉕ ACTIVATING STRESS B:

REMARKS: ㉖

① MFEF REPORT NUMBER. Failure events are listed sequentially by MFEF Report Number. Each unique failure event is assigned its own number, where a failure event is defined as a detailed description of the physical/electrical failure attributes of a specific part number, including the failure indicator, failure mode, failure defect, failure defect cause, and failure activating stress(es), where such information is reported. This is the number which appears as item ⑱ in the Digital Device Data-Detailed Listings of Section 3 of this publication.

② MFEF REPORT DATE. This date is reported in the format of year/month (e.g., 7804) and is assigned according to the following order of priority: A.) Date device failed; or B.) Date device was reported as failed; or C.) Date that failure report was submitted/written.

USAGE GUIDE
DIGITAL FAILURE ANALYSIS DATA (Cont'd)

③ DATA SOURCE. Indicates the unique data source from which each failure event was reported. The alphabetic characters of the code represent the intended/applied environment of the appropriate device/equipment. The final four integers of the code are assigned sequentially within each coded environment to maintain the identity of the data source. Data source prefixes are defined as follows:

AF	Airborne, Fighter (Environment Unknown)
AI	Airborne, Inhabited (Aircraft Type Unknown)
AT	Airborne, Transport (Environment Unknown)
AU	Airborne, Uninhabited (Aircraft Type Unknown)
FE	Failure Data (Only Equipment Level)
FP	Failure Data (Only Part Level)
GB	Ground, Benign
GF	Ground, Fixed
GM	Ground, Mobile
GP	Ground, Portable
GT	Ground, Transport
ML	Missile, Launch
NS	Naval, Sheltered
NSS	Naval, Sheltered, Submarine
NU	Naval, Unsheltered
PA	Part-Level, Government Agency Tested
PI	Part-Level, Independent Test Lab Tested
PM	Part-Level, Part Manufacturer Tested
PQ	Part-Level, Government Qualification
PU	Part-Level, Part User Tested
SF	Space, Flight
SL	Satellite, Launch

USAGE GUIDE
DIGITAL FAILURE ANALYSIS DATA (Cont'd)

④ SOURCE. Indicates the test environment to which the component/board/equipment was subjected. Categories are listed as follows:

BURN-IN	Device Burn-In (<250 hrs.)
CHECKOUT	Equipment Check
DEVICE EVALUATION	Non-Stress Evaluation
ENVIRONMENTAL	Environmental Test
FIELD	Field Experience
LIFE	Device Laboratory Life (>250 hrs.)
REL DEMO	Equipment Reliability Demonstration
REL PROD DEMO	Reliability Production Demonstration

NOTE: For DEVICE EVALUATION tests, quantity failed is indicated as zero, since no stress tests have been applied to verify the failure. These results, therefore, are excluded from the summary tables.

⑤ DATA TYPE. Identifies the data source level at which the failure(s) was reported, i.e., component level, board level, or equipment level.

⑥ APPLICATION ENV. The actual or intended environment from which the failure data was reported. The definitions used here are identical to the conventions defined in item ③, except that the part-level codes (PA, PI, PM, PQ, PU) do not constitute an operational environment and, hence, are not included within this category.

⑦ DEVICE FUNCTION. The device function represents the basic circuit function/classification of the device which failed under test.

⑧ CIRCUIT TYPE. The circuit type further identifies the specialized characteristics of a given device function.

USAGE GUIDE
DIGITAL FAILURE ANALYSIS DATA (Cont'd)

⑨ PART NUMBER. Represents the full manufacturer's commercial part number for the failed device including any stated prefix or suffix designations.

⑩ PART MANUFACTURER. Manufacturer of the failed device, indicated by the part number.

⑪ DATE CODE. This date is reported in the format of year/week (e.g., 7848) and is assigned by the device manufacturer to indicate the date of fabrication.

⑫ DEVICE TECHNOLOGY. Represents the fabrication technology applied in the implementation of the failed device.

⑬ SCREEN CLASS. Indicates the screen class of the failed device(s). The appropriate definitions are included below:

JS	38510, Class S
S-1	883 Method 5004, Screen Class S
JB	38510, Class B
B-1	883 Method 5004, Screen Class B
B-2	Class B, vendor or user equivalent
JC	38510, Class C
C-1	883 Method 5004, Screen Class C
C-2	Class C, vendor or user equivalent
D	Hermetic pkg., no screening beyond normal Q.C.
D-1	Plastic pkg., no screening beyond normal Q.C.
S/R	See Remarks. Device quality defined in item ⑭ REMARKS
JAN	38510, Screen Class not reported
883	883, probably Method 5004, Screen Class not reported

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DIGITAL FAILURE ANALYSIS DATA (Cont'd)

⑭ COMPLEXITY. Represents the complexity of the failed device in terms of the number of gates (G), the number of bits (B), or the number of transistors (T).

⑮ PACKAGE. Indicates the materials used for package enclosure and the type of construction used in the package design, as follows:

PACKAGE ENCLOSURES:

NONHERMETIC

EPOXY
SILICONE
PHENOLIC

HERMETIC

CERAMIC
METAL
CERAMIC/METAL
METAL/GLASS
GLASS/GLASS

PACKAGE CONSTRUCTION:

DIP	Dual In-Line Package
CAN	Can Package
FPK	Flatpack
QIP	Quad In-Line Package
LLP	Leadless Package
CRR	Chip Carrier

⑯ NUMBER OF PINS. Represents the number of pins as applied to the package construction.

⑰ QUANTITY FAILED. The quantity of failures of identical parts exhibiting the exact failure description and occurring within the same

USAGE GUIDE
DIGITAL FAILURE ANALYSIS DATA (Cont'd)

failure event (meaning identical data source, test and device information, failure analysis description, time-to-detection, etc.).

⑱ TIME-TO-DETECTION. This value, expressed in hours, represents the reported or calculated time of the device under test before a) a verified failure actually occurs or b) a verified failure is finally detected.

⑲ FAILURE INDICATOR. The failure indicator is the first externally detectable effect of a part failure.

⑳ FAILURE MODE. Specifies the internal location of the defect.

㉑ FAILURE DEFECT DESCRIPTION. The failure defect is the actual flaw which causes the component to fail.

㉒ FAILURE DEFECT CAUSE. Failure cause is the condition which activates or leads to the defect.

㉓ ACTIVATING STRESS "A" OR "B". Is usually an environmental stress which influences the rate of defect formation.

㉔ REMARKS. Contains additional comments which describe, in detail, the conditions or activities which lead to the occurrence of a failure event. This section may also contain information about device screen class levels not defined sufficiently in item ⑬.

MPEF REPORT NUMBER: 1942

MPEF REPORT DATE: 7710

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: INTERFACE
PART NUMBER: 9614
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: LINE DRIVER
PART MANUFACTURER: NOT REPORTED
SCREEN CLASS: J-C
NUMBER OF PINS: 16
TIME TO DETECTION: 870

DATE CODE: 0
COMPLEXITY: 40 T

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 1943

MPEF REPORT DATE: 7610

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: INTERFACE
PART NUMBER: 9614
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: LINE DRIVER
PART MANUFACTURER: NOT REPORTED
SCREEN CLASS: J-C
NUMBER OF PINS: 16
TIME TO DETECTION: 480

DATE CODE: 0
COMPLEXITY: 40 T

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 1944

MPEF REPORT DATE: 7709

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: INTERFACE
PART NUMBER: 9614
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: LINE DRIVER
PART MANUFACTURER: NOT REPORTED
SCREEN CLASS: J-C
NUMBER OF PINS: 16
TIME TO DETECTION: 840

DATE CODE: 0
COMPLEXITY: 40 T

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 1945

MPEF REPORT DATE: 7706

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: INTERFACE
PART NUMBER: 9614
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: LINE DRIVER
PART MANUFACTURER: NOT REPORTED
SCREEN CLASS: J-C
NUMBER OF PINS: 16
TIME TO DETECTION: 720

DATE CODE: 0
COMPLEXITY: 40 T

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 1946

MPEF REPORT DATE: 7606

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: INTERFACE
PART NUMBER: 9614
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: LINE DRIVER
PART MANUFACTURER: NOT REPORTED
SCREEN CLASS: J-C
NUMBER OF PINS: 16
TIME TO DETECTION: 360

DATE CODE: 0
COMPLEXITY: 40 T

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 1947

MFEF REPORT DATE: 7604

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: INTERFACE
PART NUMBER: 9614
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: LINE DRIVER
PART MANUFACTURER: NOT REPORTED
SCREEN CLASS: J-C
NUMBER OF PINS: 16
TIME TO DETECTION: 660

DATE CODE: 0
COMPLEXITY: 40 T

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 1948

MFEF REPORT DATE: 7706

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: INTERFACE
PART NUMBER: 9614
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: LINE DRIVER
PART MANUFACTURER: NOT REPORTED
SCREEN CLASS: J-C
NUMBER OF PINS: 16
TIME TO DETECTION: 720

DATE CODE: 0
COMPLEXITY: 40 T

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 1949

MFEF REPORT DATE: 7601

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: INTERFACE
PART NUMBER: 9614
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: LINE DRIVER
PART MANUFACTURER: NOT REPORTED
SCREEN CLASS: J-C
NUMBER OF PINS: 16
TIME TO DETECTION: 240

DATE CODE: 0
COMPLEXITY: 40 T

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2141

MFEF REPORT DATE: 7906

DATA SOURCE: AI-0023 SOURCE: CHECKOUT
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 4013A
DEVICE TECHNOLOGY: CMOS
PACKAGE: HERMETIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: NU
CIRCUIT TYPE: D
PART MANUFACTURER: VARIOUS
SCREEN CLASS: D-1
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 24 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2142

MFEF REPORT DATE: 7906

DATA SOURCE: AI-0023 SOURCE: CHECKOUT
DEVICE FUNCTION: SHIFT REGISTER
PART NUMBER: 4015A
DEVICE TECHNOLOGY: CMOS
PACKAGE: HERMETIC DIP
QUANTITY FAILED: 4

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: D-1
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 58 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2143

MFEF REPORT DATE: 7906

DATA SOURCE: AI-0023 SOURCE: CHECKOUT
DEVICE FUNCTION: SHIFT REGISTER
PART NUMBER: 4015A
DEVICE TECHNOLOGY: CMOS
PACKAGE: HERMETIC DIP
QUANTITY FAILED: 4

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: D-1
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 58 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2144

MFEF REPORT DATE: 7906

DATA SOURCE: AI-0023 SOURCE: CHECKOUT
DEVICE FUNCTION: SHIFT REGISTER
PART NUMBER: 4015A
DEVICE TECHNOLOGY: CMOS
PACKAGE: HERMETIC DIP
QUANTITY FAILED: 3

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: D-1
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 58 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2145

MFEF REPORT DATE: 7906

DATA SOURCE: AI-0023 SOURCE: CHECKOUT
DEVICE FUNCTION: SHIFT REGISTER
PART NUMBER: 4015A
DEVICE TECHNOLOGY: CMOS
PACKAGE: HERMETIC DIP
QUANTITY FAILED: 5

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: D-1
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 58 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2146

MFEF REPORT DATE: 7906

DATA SOURCE: AI-0023 SOURCE: CHECKOUT
DEVICE FUNCTION: COUNTER
PART NUMBER: 4024A
DEVICE TECHNOLOGY: CMOS
PACKAGE: HERMETIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: NU
CIRCUIT TYPE: BINARY
PART MANUFACTURER: VARIOUS
SCREEN CLASS: D-1
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 81 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2147

MFEF REPORT DATE: 7906

DATA SOURCE: AI-0023 SOURCE: CHECKOUT
DEVICE FUNCTION: COUNTER
PART NUMBER: 4029A
DEVICE TECHNOLOGY: CMOS
PACKAGE: HERMETIC DIP
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: BINARY/BCD
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-B
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 72 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2148

MFEF REPORT DATE: 7906

DATA SOURCE: AI-0023 SOURCE: CHECKOUT
DEVICE FUNCTION: CONVERTER
PART NUMBER: 4050A
DEVICE TECHNOLOGY: CMOS
PACKAGE: HERMETIC DIP
QUANTITY FAILED: 3

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: BUFFER
PART MANUFACTURER: VARIOUS
SCREEN CLASS: D-1
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 6 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2149

MFEF REPORT DATE: 7906

DATA SOURCE: AI-0023 SOURCE: CHECKOUT
DEVICE FUNCTION: COUNTER
PART NUMBER: 95H90
DEVICE TECHNOLOGY: ECL
PACKAGE: HERMETIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-B
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 0 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2150

MFEF REPORT DATE: 7906

DATA SOURCE: AI-0023 SOURCE: CHECKOUT
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 54S74
DEVICE TECHNOLOGY: STTL
PACKAGE: HERMETIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: D
PART MANUFACTURER: VARIOUS
SCREEN CLASS: D-1
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 12 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2151

MFEF REPORT DATE: 7906

DATA SOURCE: AI-0023 SOURCE: CHECKOUT
DEVICE FUNCTION: COUNTER
PART NUMBER: 151
DEVICE TECHNOLOGY: TTL
PACKAGE: METAL/GLASS DIP
QUANTITY FAILED: 4

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: BCD
PART MANUFACTURER: RAYTHEON
SCREEN CLASS: J-B
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 0 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2152

MFEF REPORT DATE: 7906

DATA SOURCE: AI-0023 SOURCE: CHECKOUT
DEVICE FUNCTION: COUNTER
PART NUMBER: 151
DEVICE TECHNOLOGY: TTL
PACKAGE: METAL/GLASS DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: BCD
PART MANUFACTURER: RAYTHEON
SCREEN CLASS: J-B
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 0 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2153

MFEP REPORT DATE: 7906

DATA SOURCE: AI-0023 SOURCE: CHECKOUT
DEVICE FUNCTION: COUNTER
PART NUMBER: 151
DEVICE TECHNOLOGY: TTL
PACKAGE: METAL/GLASS DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: BCD
PART MANUFACTURER: RAYTHEON DATE CODE: 0
SCREEN CLASS: J-B COMPLEXITY: 0 0
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2154

MFEP REPORT DATE: 7906

DATA SOURCE: AI-0023 SOURCE: CHECKOUT
DEVICE FUNCTION: INTERFACE
PART NUMBER: 5417
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 5

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: BUFFER/DRIVER
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: D-1 COMPLEXITY: 6 C
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2155

MFEP REPORT DATE: 7906

DATA SOURCE: AI-0023 SOURCE: CHECKOUT
DEVICE FUNCTION: INTERFACE
PART NUMBER: 5417
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 7

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: BUFFER/DRIVER
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: D-1 COMPLEXITY: 6 C
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2156

MFEP REPORT DATE: 7602

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 323
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: EXPANDABLE
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: J-C COMPLEXITY: 4 C
NUMBER OF PINS: 14
TIME TO DETECTION: 210

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2157

MFEP REPORT DATE: 7606

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 16638
DEVICE TECHNOLOGY: ECL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: J-C COMPLEXITY: 4 C
NUMBER OF PINS: 14
TIME TO DETECTION: 300

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2158

MFEF REPORT DATE: 7606

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 1671
DEVICE TECHNOLOGY: ECL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: D
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 300

DATE CODE: 0
COMPLEXITY: 6 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2159

MFEF REPORT DATE: 7708

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 54H00
DEVICE TECHNOLOGY: HTTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 720

DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2160

MFEF REPORT DATE: 7801

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 54H00
DEVICE TECHNOLOGY: HTTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 840

DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2161

MFEF REPORT DATE: 7706

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 54H00
DEVICE TECHNOLOGY: HTTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 660

DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2162

MFEF REPORT DATE: 7706

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 54H00
DEVICE TECHNOLOGY: HTTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 660

DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2163

MFEF REPORT DATE: 7702

DATA SOURCE: AF-0001 SOURCE: FIELD
 DEVICE FUNCTION: GATE
 PART NUMBER: 54H00
 DEVICE TECHNOLOGY: HTTL
 PACKAGE: HERMETIC FPK
 QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
 CIRCUIT TYPE: N/R
 PART MANUFACTURER: VARIOUS
 SCREEN CLASS: J-C
 NUMBER OF PINS: 14
 TIME TO DETECTION: 540

DATE CODE: 0
 COMPLEXITY: 4 G

FAILURE INDICATOR: MECHANICAL ANOMALY
 DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
 DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
 ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2164

MFEF REPORT DATE: 7702

DATA SOURCE: AF-0001 SOURCE: FIELD
 DEVICE FUNCTION: INVERTER
 PART NUMBER: 54H04
 DEVICE TECHNOLOGY: HTTL
 PACKAGE: HERMETIC FPK
 QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
 CIRCUIT TYPE: N/R
 PART MANUFACTURER: VARIOUS
 SCREEN CLASS: J-C
 NUMBER OF PINS: 14
 TIME TO DETECTION: 540

DATE CODE: 0
 COMPLEXITY: 6 G

FAILURE INDICATOR: MECHANICAL ANOMALY
 DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
 DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
 ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2165

MFEF REPORT DATE: 7702

DATA SOURCE: AF-0001 SOURCE: FIELD
 DEVICE FUNCTION: INVERTER
 PART NUMBER: 54H04
 DEVICE TECHNOLOGY: HTTL
 PACKAGE: HERMETIC FPK
 QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
 CIRCUIT TYPE: N/R
 PART MANUFACTURER: VARIOUS
 SCREEN CLASS: J-C
 NUMBER OF PINS: 14
 TIME TO DETECTION: 540

DATE CODE: 0
 COMPLEXITY: 6 G

FAILURE INDICATOR: VERIFIED SHORT NOC
 DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
 DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
 ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2166

MFEF REPORT DATE: 7702

DATA SOURCE: AF-0001 SOURCE: FIELD
 DEVICE FUNCTION: GATE
 PART NUMBER: 54H10/74H10
 DEVICE TECHNOLOGY: HTTL
 PACKAGE: N/R DIP
 QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
 CIRCUIT TYPE: N/R
 PART MANUFACTURER: VARIOUS
 SCREEN CLASS: N/R
 NUMBER OF PINS: 14
 TIME TO DETECTION: 540

DATE CODE: 0
 COMPLEXITY: 3 G

FAILURE INDICATOR: VERIFIED SHORT NOC
 DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
 DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
 ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2167

MFEF REPORT DATE: 7801

DATA SOURCE: AF-0001 SOURCE: FIELD
 DEVICE FUNCTION: GATE
 PART NUMBER: 54H10/74H10
 DEVICE TECHNOLOGY: HTTL
 PACKAGE: N/R DIP
 QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
 CIRCUIT TYPE: N/R
 PART MANUFACTURER: VARIOUS
 SCREEN CLASS: N/R
 NUMBER OF PINS: 14
 TIME TO DETECTION: 870

DATE CODE: 0
 COMPLEXITY: 3 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
 DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
 DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
 ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2168

MFEF REPORT DATE: 7702

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 54H21
DEVICE TECHNOLOGY: HTTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 540

DATE CODE: 0
COMPLEXITY: 2 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2169

MFEF REPORT DATE: 7603

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 54H21
DEVICE TECHNOLOGY: HTTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 210

DATE CODE: 0
COMPLEXITY: 2 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2170

MFEF REPORT DATE: 7605

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 54H21
DEVICE TECHNOLOGY: HTTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 300

DATE CODE: 0
COMPLEXITY: 2 G

FAILURE INDICATOR: VERIFIED SHORT NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2171

MFEF REPORT DATE: 7709

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 54H21
DEVICE TECHNOLOGY: HTTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 750

DATE CODE: 0
COMPLEXITY: 2 G

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2172

MFEF REPORT DATE: 7604

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: BUFFER
PART NUMBER: 54H40
DEVICE TECHNOLOGY: HTTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 240

DATE CODE: 0
COMPLEXITY: 2 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2173

MFEF REPORT DATE: 7710

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 2124
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 780

DATE CODE: 0
COMPLEXITY: 20 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2174

MFEF REPORT DATE: 7707

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 100
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 690

DATE CODE: 0
COMPLEXITY: 2 G

FAILURE INDICATOR: VERIFIED SHORT NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2175

MFEF REPORT DATE: 7607

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 100
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 330

DATE CODE: 0
COMPLEXITY: 2 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2176

MFEF REPORT DATE: 7704

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 106
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 600

DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2177

MFEF REPORT DATE: 7707

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 106
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 690

DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: VERIFIED SHORT NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2178

MFEF REPORT DATE: 7601

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 5400
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 150

DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2179

MFEF REPORT DATE: 7601

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 5400
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 150

DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: IMPROPER OUTPUT NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2180

MFEF REPORT DATE: 7801

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 5400
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 870

DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2181

MFEF REPORT DATE: 7607

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 5400
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 330

DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2182

MFEF REPORT DATE: 7706

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 5400
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 660

DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2183

MFEF REPORT DATE: 7801

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: INVERTER
PART NUMBER: 5404
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 870

DATE CODE: 0
COMPLEXITY: 6 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2184

MFEF REPORT DATE: 7806

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 5410
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 660

DATE CODE: 0
COMPLEXITY: 3 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2185

MFEF REPORT DATE: 7712

DATA SOURCE: A1-0022 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 54122
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AIF
CIRCUIT TYPE: MONOSTABLE
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-B
NUMBER OF PINS: 14
TIME TO DETECTION: 480

DATE CODE: 0
COMPLEXITY: 10 G

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2186

MFEF REPORT DATE: 7801

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: DECODER/DEMULTIPLEX
PART NUMBER: 54155
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 16
TIME TO DETECTION: 870

DATE CODE: 0
COMPLEXITY: 15 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2187

MFEF REPORT DATE: 7801

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: LOGIC UNIT
PART NUMBER: 54181
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: ARITHMETIC
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 24
TIME TO DETECTION: 870

DATE CODE: 0
COMPLEXITY: 63 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 2188

MPEF REPORT DATE: 7606

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 5420
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC PPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 300

DATE CODE: 0
COMPLEXITY: 2 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 2189

MPEF REPORT DATE: 7703

DATA SOURCE: AU-0005 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 5451
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC PPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AUF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-B
NUMBER OF PINS: 14
TIME TO DETECTION: 570

DATE CODE: 0
COMPLEXITY: 6 G

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 2190

MPEF REPORT DATE: 7609

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 5472
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC PPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 300

DATE CODE: 0
COMPLEXITY: 16 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 2191

MPEF REPORT DATE: 7605

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 5472
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC PPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 270

DATE CODE: 0
COMPLEXITY: 8 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 2192

MPEF REPORT DATE: 7702

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 5472
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC PPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 540

DATE CODE: 0
COMPLEXITY: 8 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2193

MFEF REPORT DATE: 7709

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 5472
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 750

DATE CODE: 0
COMPLEXITY: 8 G

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2194

MFEF REPORT DATE: 7606

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 5472
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 300

DATE CODE: 0
COMPLEXITY: 8 G

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2195

MFEF REPORT DATE: 7606

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 5473
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 300

DATE CODE: 0
COMPLEXITY: 16 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2196

MFEF REPORT DATE: 7703

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 5474
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: D
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 570

DATE CODE: 0
COMPLEXITY: 12 G

FAILURE INDICATOR: IMPROPER OUTPUT NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2197

MFEF REPORT DATE: 7602

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: ADDER
PART NUMBER: 5482
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: FULL
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 180

DATE CODE: 0
COMPLEXITY: 21 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2198

MFEF REPORT DATE: 7606

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: SHIFT REGISTER
PART NUMBER: 8202
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 24
TIME TO DETECTION: 300

DATE CODE: 0
COMPLEXITY: 66 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2199

MFEF REPORT DATE: 7709

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: SHIFT REGISTER
PART NUMBER: 8202
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 24
TIME TO DETECTION: 750

DATE CODE: 0
COMPLEXITY: 66 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2200

MFEF REPORT DATE: 7801

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: SHIFT REGISTER
PART NUMBER: 8202
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 24
TIME TO DETECTION: 870

DATE CODE: 0
COMPLEXITY: 66 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2201

MFEF REPORT DATE: 7602

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 9024
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 16
TIME TO DETECTION: 180

DATE CODE: 0
COMPLEXITY: 0 0

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2202

MFEF REPORT DATE: 7609

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 9024
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 16
TIME TO DETECTION: 390

DATE CODE: 0
COMPLEXITY: 0 0

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2203

MFEP REPORT DATE: 7712

DATA SOURCE: AF-0001 SOURCE: FIELD
 DEVICE FUNCTION: FLIP-FLOP
 PART NUMBER: 9024
 DEVICE TECHNOLOGY: TTL
 PACKAGE: HERMETIC FPK
 QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
 CIRCUIT TYPE: JK
 PART MANUFACTURER: VARIOUS
 SCREEN CLASS: J-C
 NUMBER OF PINS: 16
 TIME TO DETECTION: 840

DATE CODE: 0
 COMPLEXITY: 0 0

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
 DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
 DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
 ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2204

MFEP REPORT DATE: 7610

DATA SOURCE: AF-0001 SOURCE: FIELD
 DEVICE FUNCTION: FLIP-FLOP
 PART NUMBER: 9024
 DEVICE TECHNOLOGY: TTL
 PACKAGE: HERMETIC FPK
 QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
 CIRCUIT TYPE: JK
 PART MANUFACTURER: VARIOUS
 SCREEN CLASS: J-C
 NUMBER OF PINS: 16
 TIME TO DETECTION: 420

DATE CODE: 0
 COMPLEXITY: 0 0

FAILURE INDICATOR: IMPROPER OUTPUT NOC
 DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
 DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
 ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2205

MFEP REPORT DATE: 7702

DATA SOURCE: AF-0001 SOURCE: FIELD
 DEVICE FUNCTION: MULTIPLEXER
 PART NUMBER: 9309
 DEVICE TECHNOLOGY: TTL
 PACKAGE: HERMETIC FPK
 QUANTITY FAILED: 3

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
 CIRCUIT TYPE: N/R
 PART MANUFACTURER: VARIOUS
 SCREEN CLASS: J-C
 NUMBER OF PINS: 16
 TIME TO DETECTION: 540

DATE CODE: 0
 COMPLEXITY: 16 C

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
 DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
 DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
 ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2206

MFEP REPORT DATE: 7706

DATA SOURCE: AF-0001 SOURCE: FIELD
 DEVICE FUNCTION: MULTIPLEXER
 PART NUMBER: 9309
 DEVICE TECHNOLOGY: TTL
 PACKAGE: HERMETIC FPK
 QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
 CIRCUIT TYPE: N/R
 PART MANUFACTURER: VARIOUS
 SCREEN CLASS: J-C
 NUMBER OF PINS: 16
 TIME TO DETECTION: 660

DATE CODE: 0
 COMPLEXITY: 16 C

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
 DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
 DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
 ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2207

MFEP REPORT DATE: 7602

DATA SOURCE: AF-0001 SOURCE: FIELD
 DEVICE FUNCTION: MULTIPLEXER
 PART NUMBER: 9309
 DEVICE TECHNOLOGY: TTL
 PACKAGE: HERMETIC FPK
 QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
 CIRCUIT TYPE: N/R
 PART MANUFACTURER: VARIOUS
 SCREEN CLASS: J-C
 NUMBER OF PINS: 16
 TIME TO DETECTION: 180

DATE CODE: 0
 COMPLEXITY: 16 C

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
 DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
 DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
 ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2208

MFEF REPORT DATE: 7606

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: MULTIPLEXER
PART NUMBER: 9312
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 16
TIME TO DETECTION: 300

DATE CODE: 0
COMPLEXITY: 17 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2209

MFEF REPORT DATE: 7707

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: MULTIPLEXER
PART NUMBER: 9312
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 16
TIME TO DETECTION: 690

DATE CODE: 0
COMPLEXITY: 17 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2210

MFEF REPORT DATE: 7712

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: COUNTER
PART NUMBER: 9316
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: BINARY
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 16
TIME TO DETECTION: 840

DATE CODE: 0
COMPLEXITY: 57 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2215

MFEF REPORT DATE: 7609

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 9601
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: MONOSTABLE
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 390

DATE CODE: 0
COMPLEXITY: 8 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2216

MFEF REPORT DATE: 7610

DATA SOURCE: AF-0001 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 9601
DEVICE TECHNOLOGY: TTL
PACKAGE: HERMETIC FPK
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AF
CIRCUIT TYPE: MONOSTABLE
PART MANUFACTURER: VARIOUS
SCREEN CLASS: J-C
NUMBER OF PINS: 14
TIME TO DETECTION: 420

DATE CODE: 0
COMPLEXITY: 8 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2217

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: INVERTER
PART NUMBER: 836
DEVICE TECHNOLOGY: DTL
PACKAGE: N/R DIP
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: N/R COMPLEXITY: 6 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: VERIFIED SHORT NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2218

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 946
DEVICE TECHNOLOGY: DTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: D COMPLEXITY: 4 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: VERIFIED SHORT NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2219

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 951
DEVICE TECHNOLOGY: DTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: MONOSTABLE
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 6 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: VERIFIED SHORT NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2220

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 54/74H103
DEVICE TECHNOLOGY: HTTL
PACKAGE: N/R DIP
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: N/R COMPLEXITY: 12 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2221

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 54/74H106
DEVICE TECHNOLOGY: HTTL
PACKAGE: N/R DIP
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: N/R COMPLEXITY: 16 G
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2222

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 54H10/74H10
DEVICE TECHNOLOGY: HTTL
PACKAGE: N/R DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: N/R
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 3 G

FAILURE INDICATOR: VERIFIED OPEN N/C
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2223

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 54H21/74H21
DEVICE TECHNOLOGY: HTTL
PACKAGE: N/R DIP
QUANTITY FAILED: 4

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: N/R
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 2 G

FAILURE INDICATOR: DEGRADED N/C
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2224

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 74H00
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: C-2
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: VERIFIED SHORT N/C
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2225

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: INVERTER
PART NUMBER: 74H04
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: C-2
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 6 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2226

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: INVERTER
PART NUMBER: 74H04
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: C-2
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 6 G

FAILURE INDICATOR: VERIFIED OPEN N/C
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2227

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: INVERTER
PART NUMBER: 74H04
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: C-2
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 6 C

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2228

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: INVERTER
PART NUMBER: 74H04
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: C-2
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 6 C

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2229

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: INVERTER
PART NUMBER: 74H05
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: C-2
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 6 C

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2230

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: INVERTER
PART NUMBER: 74H05
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: C-2
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 6 C

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2231

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 74H10
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: C-2
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 3 C

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2232

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 74H103
DEVICE TECHNOLOGY: HTTL
PACKAGE: N/R DIP
QUANTITY FAILED: 3

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: N/R COMPLEXITY: 12 G
NUMBER OF PINS: 0
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2233

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 74H106
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 16 G
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2234

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 74H106
DEVICE TECHNOLOGY: HTTL
PACKAGE: N/R DIP
QUANTITY FAILED: 22

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: N/R COMPLEXITY: 16 G
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2235

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 74H11
DEVICE TECHNOLOGY: HTTL
PACKAGE: N/R DIP
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 3 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2236

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 74H20
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 3

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 2 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2237

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: BUFFER
PART NUMBER: 74H40
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: C-2
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 2 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2238

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 74H51
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: C-2
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 6 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2239

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 74H52
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: EXPANDABLE
PART MANUFACTURER: VARIOUS
SCREEN CLASS: C-2
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 5 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2240

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 74H52
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 8

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: EXPANDABLE
PART MANUFACTURER: VARIOUS
SCREEN CLASS: C-2
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 5 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2241

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: EXPANDER
PART NUMBER: 74H61
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: C-2
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 3 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2242

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 74H78
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 16 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2243

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 74H78
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 3

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 16 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2246

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: COUNTER
PART NUMBER: 5493/7493
DEVICE TECHNOLOGY: TTL
PACKAGE: N/R DIP
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: BINARY
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: N/R COMPLEXITY: 25 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2247

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 7400
DEVICE TECHNOLOGY: TTL
PACKAGE: N/R DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: N/R COMPLEXITY: 4 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2248

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 7400
DEVICE TECHNOLOGY: TTL
PACKAGE: N/R DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS DATE CODE: 0
SCREEN CLASS: N/R COMPLEXITY: 4 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: VERIFIED SHORT NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2249

MFEP REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
 DEVICE FUNCTION: GATE
 PART NUMBER: 7401
 DEVICE TECHNOLOGY: TTL
 PACKAGE: CERAMIC DIP
 QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
 CIRCUIT TYPE: N/R
 PART MANUFACTURER: VARIOUS
 SCREEN CLASS: C-2
 NUMBER OF PINS: 14
 TIME TO DETECTION: 0

DATE CODE: 0
 COMPLEXITY: 4 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
 DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
 DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
 ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2250

MFEP REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
 DEVICE FUNCTION: INVERTER
 PART NUMBER: 7404
 DEVICE TECHNOLOGY: TTL
 PACKAGE: CERAMIC DIP
 QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
 CIRCUIT TYPE: N/R
 PART MANUFACTURER: VARIOUS
 SCREEN CLASS: C-2
 NUMBER OF PINS: 14
 TIME TO DETECTION: 0

DATE CODE: 0
 COMPLEXITY: 6 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
 DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
 DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
 ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2251

MFEP REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
 DEVICE FUNCTION: INVERTER
 PART NUMBER: 7404
 DEVICE TECHNOLOGY: TTL
 PACKAGE: CERAMIC DIP
 QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
 CIRCUIT TYPE: N/R
 PART MANUFACTURER: VARIOUS
 SCREEN CLASS: C-2
 NUMBER OF PINS: 14
 TIME TO DETECTION: 0

DATE CODE: 0
 COMPLEXITY: 6 G

FAILURE INDICATOR: VERIFIED OPEN NOC
 DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
 DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
 ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2252

MFEP REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
 DEVICE FUNCTION: INVERTER
 PART NUMBER: 7404
 DEVICE TECHNOLOGY: TTL
 PACKAGE: N/R DIP
 QUANTITY FAILED: 4

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
 CIRCUIT TYPE: N/R
 PART MANUFACTURER: VARIOUS
 SCREEN CLASS: N/R
 NUMBER OF PINS: 14
 TIME TO DETECTION: 0

DATE CODE: 0
 COMPLEXITY: 6 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
 DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
 DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
 ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2253

MFEP REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
 DEVICE FUNCTION: INVERTER
 PART NUMBER: 7404
 DEVICE TECHNOLOGY: TTL
 PACKAGE: N/R DIP
 QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
 CIRCUIT TYPE: N/R
 PART MANUFACTURER: VARIOUS
 SCREEN CLASS: N/R
 NUMBER OF PINS: 14
 TIME TO DETECTION: 0

DATE CODE: 0
 COMPLEXITY: 6 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
 DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
 DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
 ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2254

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: INVERTER
PART NUMBER: 7404
DEVICE TECHNOLOGY: TTL
PACKAGE: N/R DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: N/R
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 6 G

FAILURE INDICATOR: VERIFIED SHORT NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2255

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 7404
DEVICE TECHNOLOGY: TTL
PACKAGE: N/R DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: N/R
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 6 G

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2256

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: INTERFACE
PART NUMBER: 7406
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: BUFFER/DRIVER
PART MANUFACTURER: VARIOUS
SCREEN CLASS: C-2
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 6 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2257

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: INTERFACE
PART NUMBER: 7406
DEVICE TECHNOLOGY: TTL
PACKAGE: N/R DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: BUFFER/DRIVER
PART MANUFACTURER: VARIOUS
SCREEN CLASS: N/R
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 6 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2258

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 74107
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS
SCREEN CLASS: C-2
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 16 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2259

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 74107
DEVICE TECHNOLOGY: TTL
PACKAGE: N/R DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS
SCREEN CLASS: N/R
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 16 G

FAILURE INDICATOR: VERIFIED SHORT NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2260

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: MULTIPLEXER
PART NUMBER: 74150
DEVICE TECHNOLOGY: TTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: D
NUMBER OF PINS: 24
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 26 G

FAILURE INDICATOR: IMPROPER OUTPUT NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2261

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: MULTIPLEXER
PART NUMBER: 74151
DEVICE TECHNOLOGY: TTL
PACKAGE: N/R DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: N/R
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 17 G

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2262

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: DECODER/DEMULTIPLEX
PART NUMBER: 74155
DEVICE TECHNOLOGY: TTL
PACKAGE: N/R DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: N/R
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 15 G

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2263

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 7420
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 4

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: C-2
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 2 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2264

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: COUNTER
PART NUMBER: 7493
DEVICE TECHNOLOGY: TTL
PACKAGE: N/R DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: BINARY
PART MANUFACTURER: VARIOUS
SCREEN CLASS: N/R
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 25 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2265

MFEF REPORT DATE: 7803

DATA SOURCE: GB-0005 SOURCE: FIELD
DEVICE FUNCTION: SHIFT REGISTER
PART NUMBER: 7495
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: C-2
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 37 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2266

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 10102
DEVICE TECHNOLOGY: ECL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS
SCREEN CLASS: C-2
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: LEAKAGE NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2267

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 10109
DEVICE TECHNOLOGY: ECL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS
SCREEN CLASS: C-2
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 2 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2268

MFEF REPORT - DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 10109
DEVICE TECHNOLOGY: ECL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS
SCREEN CLASS: C-2
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 2 G

FAILURE INDICATOR: LEAKAGE NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2269

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 10131
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: D
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 14 C
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2270

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: SHIFT REGISTER
PART NUMBER: 10141
DEVICE TECHNOLOGY: ECL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 0 0
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: LEAKAGE NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2271

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: SHIFT REGISTER
PART NUMBER: 10141
DEVICE TECHNOLOGY: ECL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 0 0
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: METALIZATION NOC
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2272

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: SHIFT REGISTER
PART NUMBER: 10141
DEVICE TECHNOLOGY: ECL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 0 0
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: MASK FAULT

FAILURE MODE: DIE NOC
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2273

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: SHIFT REGISTER
PART NUMBER: 10141
DEVICE TECHNOLOGY: ECL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 0 0
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: MASK FAULT

FAILURE MODE: DIE NOC
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2274

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: SHIFT REGISTER
PART NUMBER: 10141
DEVICE TECHNOLOGY: ECL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS
SCREEN CLASS: C-2
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 0 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2275

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: MULTIPLEXER
PART NUMBER: 10164
DEVICE TECHNOLOGY: ECL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS
SCREEN CLASS: C-2
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 12 G

FAILURE INDICATOR: LEAKAGE NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2277

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: MULTIPLEXER
PART NUMBER: 10164
DEVICE TECHNOLOGY: ECL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS
SCREEN CLASS: C-2
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 12 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2278

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: MULTIPLEXER
PART NUMBER: 10164
DEVICE TECHNOLOGY: ECL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 6

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS
SCREEN CLASS: C-2
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 12 G

FAILURE INDICATOR: LEAKAGE NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2279

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: MULTIPLEXER
PART NUMBER: 10164
DEVICE TECHNOLOGY: ECL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 3

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS
SCREEN CLASS: C-2
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 12 G

FAILURE INDICATOR: LEAKAGE NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2280

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: MULTIPLEXER
PART NUMBER: 10164
DEVICE TECHNOLOGY: ECL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS
SCREEN CLASS: C-2
NUMBER OF PINS: 16
TIME TO DETECTION: 0
DATE CODE: 0
COMPLEXITY: 12 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2281

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 54H103
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: JK
PART MANUFACTURER: SIGNETICS
SCREEN CLASS: D-1
NUMBER OF PINS: 14
TIME TO DETECTION: 0
DATE CODE: 0
COMPLEXITY: 12 G

FAILURE INDICATOR: LEAKAGE NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS: 168 HR BURN-IN

MFEF REPORT NUMBER: 2282

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 54H72
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: JK
PART MANUFACTURER: SIGNETICS
SCREEN CLASS: D-1
NUMBER OF PINS: 14
TIME TO DETECTION: 0
DATE CODE: 0
COMPLEXITY: 8 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS: 168 HR BURN-IN

MFEF REPORT NUMBER: 2283

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 54H74
DEVICE TECHNOLOGY: HTTL
PACKAGE: CERAMIC FPK
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: D
PART MANUFACTURER: SIGNETICS
SCREEN CLASS: C-2
NUMBER OF PINS: 14
TIME TO DETECTION: 0
DATE CODE: 0
COMPLEXITY: 12 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: MASK FAULT

FAILURE MODE: DIE NOC
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2284

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 74LS00
DEVICE TECHNOLOGY: LSTTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS
SCREEN CLASS: D
NUMBER OF PINS: 14
TIME TO DETECTION: 0
DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: LEAKAGE NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 2285

MPEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: INVERTER
PART NUMBER: 74LS04
DEVICE TECHNOLOGY: LSTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 6 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: WIREBOND NOC
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 2286

MPEF REPORT DATE: 7701

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: INVERTER
PART NUMBER: 74LS04
DEVICE TECHNOLOGY: LSTTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: C-2 COMPLEXITY: 6 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: WIREBOND NOC
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 2287

MPEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 74LS20
DEVICE TECHNOLOGY: LSTTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: D COMPLEXITY: 2 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: LEAKAGE NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 2288

MPEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: BUFFER
PART NUMBER: 74LS40
DEVICE TECHNOLOGY: LSTTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: D COMPLEXITY: 2 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: LEAKAGE NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MPEF REPORT NUMBER: 2289

MPEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 54803
DEVICE TECHNOLOGY: STTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: D-1 COMPLEXITY: 4 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS: 168 HR BURN-IN

MFEF REPORT NUMBER: 2290

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 54851
DEVICE TECHNOLOGY: STTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: D-1 COMPLEXITY: 6 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: LEAKAGE NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2291

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 74500
DEVICE TECHNOLOGY: STTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: D COMPLEXITY: 4 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: DIE NOC
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2292

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 74500
DEVICE TECHNOLOGY: STTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: D COMPLEXITY: 4 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2293

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 74S112
DEVICE TECHNOLOGY: STTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: JK
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: D COMPLEXITY: 16 G
NUMBER OF PINS: 16
TIME TO DETECTION: 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2294

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 74S20
DEVICE TECHNOLOGY: STTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 2

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS DATE CODE: 0
SCREEN CLASS: D COMPLEXITY: 2 G
NUMBER OF PINS: 14
TIME TO DETECTION: 0

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: WIREBOND NOC
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2295

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: MULTIPLEXER
PART NUMBER: 54151
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS
SCREEN CLASS: D-1
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 17 G

FAILURE INDICATOR: LEAKAGE NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS: 168 HR BURN-IN

MFEF REPORT NUMBER: 2296

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: GENERATOR
PART NUMBER: 54180
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS
SCREEN CLASS: D-1
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 14 G

FAILURE INDICATOR: LEAKAGE NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS: 168 HR BURN-IN

MFEF REPORT NUMBER: 2297

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: COUNTER
PART NUMBER: 54193
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: BINARY
PART MANUFACTURER: SIGNETICS
SCREEN CLASS: C-2
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 48 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: MASK FAULT

FAILURE MODE: DIE NOC
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2298

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: ADDER
PART NUMBER: 5483
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: FULL
PART MANUFACTURER: SIGNETICS
SCREEN CLASS: D-1
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 36 G

FAILURE INDICATOR: LEAKAGE NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS: 168 HR BURN-IN

MFEF REPORT NUMBER: 2299

MFEF REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 7400
DEVICE TECHNOLOGY: TTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS
SCREEN CLASS: D
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: WIREBOND NOC
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2300

MFEP REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 7400
DEVICE TECHNOLOGY: TTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS
SCREEN CLASS: D
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: WIREBOND NOC
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2301

MFEP REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 7400
DEVICE TECHNOLOGY: TTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 5

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS
SCREEN CLASS: D
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: MASK FAULT

FAILURE MODE: DIE NOC
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2303

MFEP REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 7400
DEVICE TECHNOLOGY: TTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS
SCREEN CLASS: D
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: LEAKAGE NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2304

MFEP REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 7400
DEVICE TECHNOLOGY: TTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS
SCREEN CLASS: D
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: NON-FUNCT,IN-OP,CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: SURFACE
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2305

MFEP REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: GATE
PART NUMBER: 7400
DEVICE TECHNOLOGY: TTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 5

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS
SCREEN CLASS: D
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: MASK FAULT

FAILURE MODE: DIE NOC
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2306

MFEP REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 74123
DEVICE TECHNOLOGY: TTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: MONOSTABLE
PART MANUFACTURER: SIGNETICS
SCREEN CLASS: D
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 20 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2307

MFEP REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 74175
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: D
PART MANUFACTURER: SIGNETICS
SCREEN CLASS: C-2
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 24 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: MASK FAULT

FAILURE MODE: DIE NOC
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2308

MFEP REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: DECODER
PART NUMBER: 7443
DEVICE TECHNOLOGY: TTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: DECIMAL
PART MANUFACTURER: SIGNETICS
SCREEN CLASS: D
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 18 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: MASK FAULT

FAILURE MODE: DIE NOC
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2309

MFEP REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: SHIFT REGISTER
PART NUMBER: 7491
DEVICE TECHNOLOGY: TTL
PACKAGE: EPOXY DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS
SCREEN CLASS: D
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 67 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2310

MFEP REPORT DATE: 7711

DATA SOURCE: PM-0005 SOURCE: LIFE
DEVICE FUNCTION: SHIFT REGISTER
PART NUMBER: 8200
DEVICE TECHNOLOGY: TTL
PACKAGE: METAL/GLASS DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: SIGNETICS
SCREEN CLASS: C-2
NUMBER OF PINS: 24
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 62 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: DIE DIFFUSION
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2311

MFEF REPORT DATE: 7905

DATA SOURCE: PM-0001 SOURCE: LIFE
 DEVICE FUNCTION: GATE
 PART NUMBER: 11C01
 DEVICE TECHNOLOGY: ECL
 PACKAGE: CERAMIC/METAL DIP
 QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: CB
 CIRCUIT TYPE: N/R
 PART MANUFACTURER: FAIRCHILD SEMI
 SCREEN CLASS: D
 NUMBER OF PINS: 16
 TIME TO DETECTION: 8

DATE CODE: 0
 COMPLEXITY: 2 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
 DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
 DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
 ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2312

MFEF REPORT DATE: 7905

DATA SOURCE: PM-0001 SOURCE: LIFE
 DEVICE FUNCTION: REGISTER LOGIC UNIT
 PART NUMBER: 9405A
 DEVICE TECHNOLOGY: ECL
 PACKAGE: CERAMIC DIP
 QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: CB
 CIRCUIT TYPE: N/R
 PART MANUFACTURER: FAIRCHILD SEMI
 SCREEN CLASS: C-2
 NUMBER OF PINS: 24
 TIME TO DETECTION: 168

DATE CODE: 0
 COMPLEXITY: 0 0

FAILURE INDICATOR: DEGRADED NOC
 DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
 DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
 ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2313

MFEF REPORT DATE: 7612

DATA SOURCE: AU-0003 SOURCE: REL DEMO
 DEVICE FUNCTION: FLIP-FLOP
 PART NUMBER: 2602
 DEVICE TECHNOLOGY: TTL
 PACKAGE: CERAMIC DIP
 QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AU
 CIRCUIT TYPE: MONOSTABLE
 PART MANUFACTURER: ADVANCED MICRO DEVICES
 SCREEN CLASS: D-1
 NUMBER OF PINS: 16
 TIME TO DETECTION: 0

DATE CODE: 0
 COMPLEXITY: 14 G

FAILURE INDICATOR: DEGRADED NOC
 DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
 DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
 ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2314

MFEF REPORT DATE: 7612

DATA SOURCE: AU-0003 SOURCE: REL DEMO
 DEVICE FUNCTION: GATE
 PART NUMBER: 5410
 DEVICE TECHNOLOGY: TTL
 PACKAGE: HERMETIC DIP
 QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AU
 CIRCUIT TYPE: N/R
 PART MANUFACTURER: VARIOUS
 SCREEN CLASS: S-2
 NUMBER OF PINS: 14
 TIME TO DETECTION: 0

DATE CODE: 0
 COMPLEXITY: 3 G

FAILURE INDICATOR: DEGRADED NOC
 DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
 DEFECT CAUSE: N/R

ACTIVATING STRESS A: ELECTRICAL OVERSTRESS
 ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2315

MFEF REPORT DATE: 7612

DATA SOURCE: AU-0003 SOURCE: REL DEMO
 DEVICE FUNCTION: FLIP-FLOP
 PART NUMBER: 5473
 DEVICE TECHNOLOGY: TTL
 PACKAGE: HERMETIC DIP
 QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AU
 CIRCUIT TYPE: JK
 PART MANUFACTURER: VARIOUS
 SCREEN CLASS: S-2
 NUMBER OF PINS: 14
 TIME TO DETECTION: 0

DATE CODE: 0
 COMPLEXITY: 16 G

FAILURE INDICATOR: DEGRADED NOC
 DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
 DEFECT CAUSE: N/R

ACTIVATING STRESS A: ELECTRICAL OVERSTRESS
 ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2316

MFEF REPORT DATE: 7612

DATA SOURCE: AU-0003 SOURCE: REL DEMO
DEVICE FUNCTION: INVERTER
PART NUMBER: 5404
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AU
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: D-1
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 6 G

FAILURE INDICATOR: VERIFIED SHORT NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: DIE JUNCTION
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2317

MFEF REPORT DATE: 7904

DATA SOURCE: PH-0003 SOURCE: LIFE
DEVICE FUNCTION: ENCODER
PART NUMBER: 165
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: COMPONENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: N/R
PART MANUFACTURER: HARRIS SEMI
SCREEN CLASS: C-1
NUMBER OF PINS: 24
TIME TO DETECTION: 168

DATE CODE: 0
COMPLEXITY: 0 0

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2318

MFEF REPORT DATE: 7809

DATA SOURCE: GB-0004 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 74173
DEVICE TECHNOLOGY: TTL
PACKAGE: NONHERMETIC DIP
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: GB
CIRCUIT TYPE: D
PART MANUFACTURER: VARIOUS
SCREEN CLASS: N/R
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 45 G

FAILURE INDICATOR: NON-FUNCT, IN-OP, CATAS
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2319

MFEF REPORT DATE: 7804

DATA SOURCE: AU-0004 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 5400
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AU
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: D-1
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEF REPORT NUMBER: 2320

MFEF REPORT DATE: 7804

DATA SOURCE: AU-0004 SOURCE: FIELD
DEVICE FUNCTION: GATE
PART NUMBER: 5400
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 2

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AU
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: D-1
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 4 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2321

MFEP REPORT DATE: 7804

DATA SOURCE: AU-0004 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 5476
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AU
CIRCUIT TYPE: JK
PART MANUFACTURER: VARIOUS
SCREEN CLASS: D-1
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 16 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2322

MFEP REPORT DATE: 7804

DATA SOURCE: AU-0004 SOURCE: FIELD
DEVICE FUNCTION: INVERTER
PART NUMBER: 9016
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AU
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: D-1
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 6 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2323

MFEP REPORT DATE: 7804

DATA SOURCE: AU-0004 SOURCE: FIELD
DEVICE FUNCTION: INVERTER
PART NUMBER: 9016
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AU
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: D-1
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 6 G

FAILURE INDICATOR: VERIFIED OPEN NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2324

MFEP REPORT DATE: 7804

DATA SOURCE: AU-0004 SOURCE: FIELD
DEVICE FUNCTION: SHIFT REGISTER
PART NUMBER: 9300
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AU
CIRCUIT TYPE: N/R
PART MANUFACTURER: VARIOUS
SCREEN CLASS: D-1
NUMBER OF PINS: 16
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 48 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

MFEP REPORT NUMBER: 2325

MFEP REPORT DATE: 7804

DATA SOURCE: AU-0005 SOURCE: FIELD
DEVICE FUNCTION: FLIP-FLOP
PART NUMBER: 9601
DEVICE TECHNOLOGY: TTL
PACKAGE: CERAMIC DIP
QUANTITY FAILED: 1

DATA-TYPE: EQUIPMENT LEVEL APPLICATION ENV: AU
CIRCUIT TYPE: MONOSTABLE
PART MANUFACTURER: VARIOUS
SCREEN CLASS: D-1
NUMBER OF PINS: 14
TIME TO DETECTION: 0

DATE CODE: 0
COMPLEXITY: 8 G

FAILURE INDICATOR: DEGRADED NOC
DEFECT DESCRIPTION: N/R

FAILURE MODE: N/R
DEFECT CAUSE: N/R

ACTIVATING STRESS A: N/R
ACTIVATING STRESS B: N/R

REMARKS:

APPENDIX A

**DEFINITIONS OF THE FIVE MAJOR FAILURE DESCRIPTOR CATEGORIES AND
ILLUSTRATION OF FAILURE EVENT RECORD STRUCTURE**

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APPENDIX A
Definitions of the Five Major Failure
Descriptor Categories

- (1) Failure Indicator - Is the first externally detectable effect of a part failure

Example:

Indicator: Open

- (2) Failure Mode - Specifies the internal location of the defect

Example:

Mode: Die

- (3) Failure Defect Description - Is the actual flaw which causes the component to fail

Example:

Defect: Cracked

- (4) Failure Defect Cause - Is the condition which activates or leads to the defect

Example:

Cause: Process Flaw

- (5) Activating Stress "A" or "B" - Is usually an environmental stress which influences the rate of defect formation

Example:

Activating Stress "A": Thermo-Mechanical

Below each of the definitions for each of the five major failure descriptors is an example of each of the descriptors. These descriptors

would be the type of attributes which would be retrieved from a typical detailed part failure analysis, therefore providing an accurate overview of the failure occurrence from the initial failure indicator down to the activating stress for that particular failure. This link between each of the major failure descriptors can be seen in the example.

APPENDIX A

ILLUSTRATION OF FAILURE EVENT RECORD STRUCTURE

<u>Failure Indicators</u>	<u>Failure Modes</u>
Open	Die
Verified Open	Unknown
Unknown	Bulk Aspects
Input	Unknown
Output	Junction
Supply	Diffusion
Combination	Expitaxial Layer
Other	Crystal
Intermittent Open	Metalization
Unknown	Unknown
Input	Oxide Step
Output	PROM Fuze
Supply	Contact Window
Combination	Polysilicon Conductor
Other	Multi-Level Interface
	Multi-Layer Interface
	Bond Pad
Short	Oxide/Dielectric
Verified Short	Unknown
Unknown	Gate Oxide/Dielectric
Input	Field Oxide/Dielectric
Output	Capacitor Dielectric
Supply	Crossover Dielectric
Combination	Glassivation
Other	Surface
Intermittent Short	Interconnects
Unknown	Unknown
Input	Wire
Output	Wirebond
Supply	Unknown
Combination	Wirebond at Die Pad
Other	Unknown
	Die Pad Heel
	Die Pad Neck
Degraded	Wirebond at Lead Frame
Unknown	Unknown
Leakage	Lead Frame Heel
Unknown	Lead Frame Neck
Input	Beam Lead
Output	Unknown
Supply	Die Pad
Combination	Lead Frame
Other	Bump
Parameter Out-of-Tolerance	
Unknown	
Output Voltage	

APPENDIX A

ILLUSTRATION OF FAILURE EVENT RECORD STRUCTURE (Cont'd)

Failure Indicators (Cont'd)

Degraded (Cont'd)

Input Voltage
Input Offset Voltage
Switching Characteristics
Supply Current
Propagation Delay
Input Offset Current
Gain Characteristics
Dynamic Characteristics

Functional Anomaly

Unknown
Non-Func., Inoper., Catastrophic
Improper Output
 Unknown
 Improper Logic State
 Memory Data Loss
 Improper Output Switching
 Fluct./Oscillating Output
 Distorted/Clipped Output
 Crosstalk
Output Latching
 Unknown
 Output Latched High
 Output Latched Low

Mechanical Anomaly

Defect Description

Brittle
Broken
Channel
Chipout
Cracked
Crazed
Delaminated
Dislocation
Etch Fault
Etch Pit
Extraneous Wire
Flaking
Fracture
Hillock
Impurities

Failure Modes (Cont'd)

Package

Unknown
Package Seal
Package Lid
Package Body
Package Lead
Die Attach Bond
Package Encapsulant

Defect Cause

Contamination
Corrosion
Dendrite Growth
Dielectric Breakdown
Electrolysis
Electromigration
Fatigue
Growback
Intermetallic Formation
Ionic Drift
Microplasma
Oxidation
Thermal Diffusion
Workmanship
Process Flaw
Troubleshooting

Failure Activating Stress

Electrical Overstress
Electrostatic Discharge
Current Stress
Humidity
Mechanical Stress
Pressure
Radiation-Nuclear
Radiation-Electromagnetic
Radiation-X-ray
Temperature
Thermo-Mechanical Stress
Voltage Stress
Voltage and Current Stress

APPENDIX A

ILLUSTRATION OF FAILURE EVENT RECORD STRUCTURE (Cont'd)

Defect Description (Cont'd)

Lifted .
Loose
Mask Fault
Misaligned/Misplaced
Missing
Necked Down
Ohmic
Open (NOC)
Particle Bridge
Peeling
Pinhole
Pipe
Scratch
Short (NOC)
Smear
Spike
Stacking Fault
Voids
Zapped-Evaporated
Fault (NOC)
Flashover-Arc
Punch Through
Poor Plating
Discolored
Corroded
Melted-Fused
Diffusion Fault
Reversed
Deformed
Hole
Tunneled
Inadequate
Exposed
Mismarked
Swollen

APPENDIX B

ADDITIONAL RAC SERVICES

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ADDITIONAL RAC SERVICES

Search Services

Retrospective Searches are conducted at a flat fee of \$125 per search. If no references are identified, a \$50 service charge will be made in lieu of the above. For best results, please call or write for assistance in formulating your search question. An extra charge, based on engineering time and costs, will be made for evaluating, extracting or summarizing information from the cited references.

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